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—Tolstoi

NOVEMBER 1946

Vol. 159, No. 11

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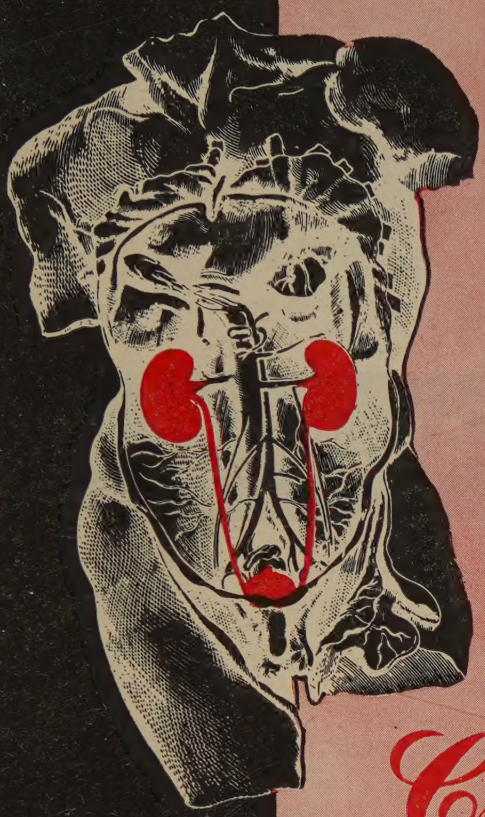

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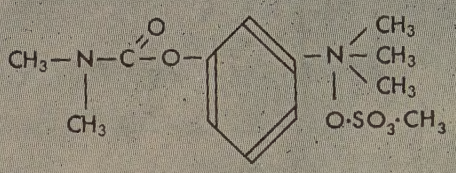

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NOVEMBER, 1946

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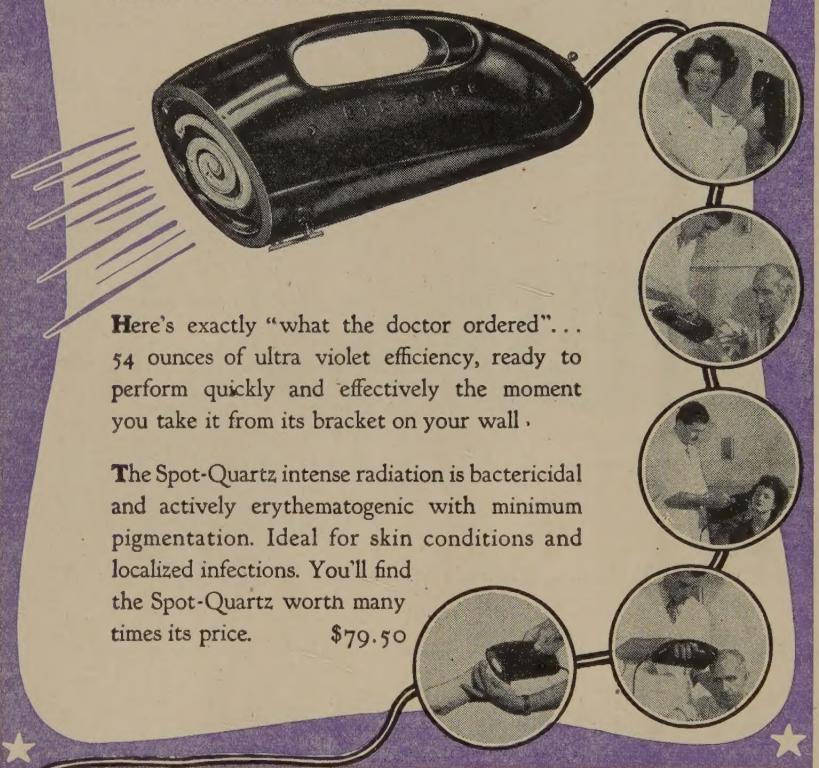

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Cardiovascular Grants

Eleven additional fellowships and three more grants-in-aid to medical institutions for research in diseases of the heart and of the arteries were announced recently by the Life Insurance Medical Research Fund. The additional awards bring this year's allocation of research funds to nearly seven hundred thousand dollars. Organized a year ago, the Life Insurance Medical Research Fund is supported by one hundred and forty-nine legal reserve life insurance companies in the United States and Canada. All research sponsored by the fund is devoted at present to the cardiovascular diseases, the single most prevalent cause of death in modern civilization.

Grants in aid were awarded to Carnegie Institution of Washington, D.C., for support of research into the embryiology of the veins of the brain, under the supervision of Dr. George W. Corner; to McGill University, for support of research towards the development of procedures for heart surgery, under the supervision of Dr. David W. MacKenzie, and to New York University, for support of research towards designing an extremely delicate sensitive apparatus for measuring the blood pressure in the heart, under the supervision of Dr. Homer W. Smith. The fellowship awards bring the total number given by the fund in the first year of its operation to twenty, representing $55,800. Total funds expended for grants-in-aid amount to $633,591.

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Poliomyelitis in New York State

Poliomyelitis is epidemic in many parts of the nation but no true outbreak of the disease has been experienced thus far this year in Upstate New York, according to *Health News,* September 16, 1946. During the first eight months of 1946, a total of two hundred and seventy-seven cases was reported in the upstate area. Of this number, one hundred and sixty-six were recorded in August. Although both the number of cases in that month and the total for 1946 through August 31st are below the corresponding averages for the previous five years, they are in excess of the averages for years of normal incidence. Excepting 1944 and 1945, more cases were reported in August 1946 than in any other years since 1935 and, with those same exceptions, the total for the current year to date is greater than for any other year since 1931.

Counties with the largest numbers of cases through August are: Nassau forty-three; Suffolk forty; Onondaga thirty-one; Westchester seventeen; Monroe sixteen; Broome seventeen; and Erie thirteen. No other counties have reported in excess of ten cases thus far this year.

Records of the incidence of poliomyelitis in Upstate New York date back to 1910. During the succeeding interval, a year of high prevalence was nearly always followed by one of normal or low prevalence until 1944. The epidemic of that year approximated in proportions the one of 1916; nevertheless, the number of cases in 1945 was very high and it appears that the 1946 figure may be considerably above that expected. This change in trend is difficult to explain.

Figures supplied by the United States Public Health Service indicate that 1946 may witness one of the largest outbreaks of poliomyelitis on record for the nation as a whole. New York as yet has experienced only a high normal incidence. Although this state appears to be escaping the full impact of the countrywide epidemic, there are certain precautions which parents should take in the interests of protecting children against an attack of the disease. It is now well established that the usual method of spread of infantile paralysis is from one child to another by direct contact. It is also known that paralysis is an unusual complication in poliomyelitis and that the majority of attacks are characterized by mild illness with fever. It is most desirable, therefore, to keep children from associating with other children who may be ill from any cause, no matter how trivial the illness may seem to be. It is also advisable when poliomyelitis is prevalent in a community to see that children do not become excessively fatigued or chilled. Tonsillectomies should be postponed, if possible, until colder weather.

Above all, it should be remembered that even when paralysis does occur in the course of poliomyelitis, the great majority of children recover completely with proper care and only a very small fraction remain seriously paralyzed.

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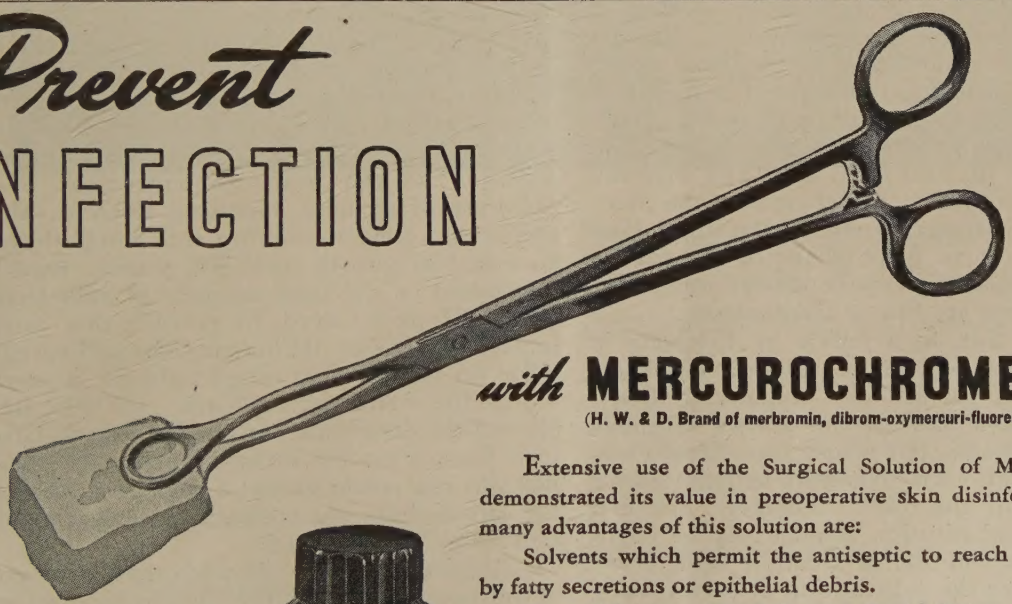

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Open Forum

Nutrition Facts, Findings and Fallacies

T. SWANN HARDING
Falls Church, Va.

The distinguished gastroenterologist, Walter C. Alvarez, is fond of quoting the American humorist who said memorably that it is a great deal better to be ignorant than to know so many things which are not so. The difficulty here is to distinguish between facts, findings, fictions and fallacies. Take nutrition for an example.

In the November 24, 1945 issue, the *Journal of the American Medical Association* discussed the puzzling pellagra problem editorially. Niacin deficiency is obviously related to the development of pellagra in man and blacktongue in dogs, but this does not explain the high incidence of pellagra in maize-eating countries, because corn contains as much niacin as many other unobjectionable foods like milk, eggs, or oats. Goldberger long ago observed that the addition of proteins and of certain amino acids to the diet mitigated the effects of pellagra on human beings.

Blacktongue cannot be produced on a synthetic diet low in niacin, if it is adequate in other respects, unless corn grits are added. But the effect of adding corn grits can be nullified either by the addition of niacin or by increasing its protein level. As early as 1922-25, Goldberger and his coworkers came upon the idea that the addition of the amino acid tryptophane could counteract the deleterious effects of a bad diet, a fact confirmed in later work by C. V. Elvehjem. Does all this mean that niacin may at times be synthesized by the intestinal flora and that the addition of corn grits to a diet reduces the number of niacin-synthesizing microörganisms? Possibly the addition of tryptophane or protein increases the number of these beneficial organisms, and corn proteins are low in tryptophane.

Let us turn then to a review by Elvehjem in *Nutrition Reviews* (4:1:1.) He mentions rats which grew well on a purified diet containing fifteen percent of casein and all the known vitamins except nicotinic acid, but whose growth rate was greatly reduced if corn grits were substituted for forty percent of this diet. However, the evil effects of the substitution could easily be counteracted by the addition of nicotinic acid to the ration. Moreover the substitution of barley, oats, or rice would not produce the above-mentioned result, though they all contain less niacin than corn!

It had been discovered that the low tryptophane content of corn proteins might be the factor producing the result mentioned and, sure enough, when it was added in sufficient quantity growth proved satisfactory. Glucose, dextrin, and lactose also have this beneficial effect--more so than other carbohydrates--and small quantities of milk prove effective too. Low levels of other vitamins in the diet accentuate the bad effect of corn on the animals.

Diets containing nine percent of casein produce fairly good growth in rats, but if six percent of gelatin is added, poor growth results, a retardation that could be counteracted by the addition of either nicotinic acid or tryptophane! All proteins or protein preparations low in tryptophane would produce bad effects on the animals when added to diets already fairly low in protein. Hence diets high in low-quality protein are much more deleterious than diets low in proteins of fairly well-balanced amino acid composition, so we have as yet a great deal to learn about the biological effects of protein foods of different amino acid composition.

It is impossible yet to give a specific figure for the human requirement of any nutrient element. It is better to accept figures in the general range while research is devoted more to the curious interrelationships between the biological effects of known food factors. A specific nutrient can be beneficial at a low level and much less so at a higher level. We do not even know what actually happens in old-fashioned food processing, much less the newer forms. Whereas wheat gluten will produce running fits in dogs, whole wheat fed at an equivalent gluten level will do no such thing. Hence something else is probably made when wheat gluten is prepared. Puzzles abound, as an editorial discussion of refection in the *British Medical Journal,* March 30, 1946, made painfully clear.

It is an extremely curious fact that he was wrong when, in 1912, F. Gowland Hopkins announced that rats grew on complete diets otherwise lacking accessory food factors, when small additions of milk were made. That is usually regarded as the basic announcement of the discovery of vitamins, but when Osborne, Mendel and others tried to confirm this work, they discovered that growth could not possibly have been maintained on the small amounts of milk Hopkins used. Hopkins lived to correct this mistake himself, just as he did his grevious and egregious error on the formula of glutathione, a work in which the writer had a hand. In 1945, he explained the discrepancy in the 1912 work. Growth took place when the carbohydrate in the standard diet was raw potato starch; it would not occur when the carbohydrate was ordinary sugar, detrinized potato starch, or rice starch.

Eijkman, in 1897, showed that raw potato starch would prevent the development of polyneuritis if fed in lieu of polished rice. It therefore had a vitamin-sparing effect and, on it, rats sometimes spontaneously achieved refection, or the ability to grow without vitamin B. Sometimes this spontaneous development occurs on rice starch; its appearance is very common on raw potato starch.

In other words, animals can occasionally develop a method of synthesizing certain vitamins and perhaps other food factors, using the intestinal flora for the purpose, somewhat as a cow does

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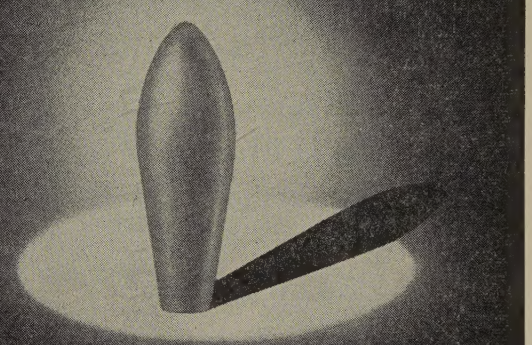

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in her rumen. Largely undigested starch present in the intestines helps foment this process in experimental animals like rats. An acid reaction in the cecum enables the rat to absorb and utilize the vitamins found there. Thus an artificial rumen is developed and the rat becomes nutritionally autonomous in certain respects. Could human beings be induced to do the same by such dietetic and other measures as would be required to enable their intestinal flora to develop a beneficial synthesizing function? True, the action of raw potato starch has not yet been absolutely proved to be bacterial in nature. Perhaps it contains accessory food factors as yet unknown. Mystery again enshrouds the subject.

Meanwhile R. R. Williams of the Bell Telephone Co., announced in 1942, that uninformed and unprogressive people of the poorer classes could be as well fed as the rest of us, at the trivial cost of twenty cents per head per year, simply by automatically enriching our bread and flour with thiamin, niacin, and iron, as is now done. His brother, Roger J. Williams, the University of Texas, was saying about the same time that he had observed distinct personality differences in experimental animals on different diets.

This sounds as if we were getting somewhere. Good health, good disposition, and good diet go together. All psychological disturbances are perhaps pathological also, mental health is based on physical health, vitamins contribute to mental and emotional health--as we well know now from many recent experiments with human beings on low-calorie (semistarvation) or on vitmain B complex deficient diets--hence a sound diet means psychological adjustability.

Consider the hallucinations, dreams, and mental symptoms of those on pellagra-producing diets, and of the victims of pellagra and of starvation. Utterly dimented and incapacitated persons have been quickly put right with nicotine acid, just as those whose moral and social adjustments have been destroyed by starvation become good citizens again on adequate diets. Good diets containing abundance of vitamins and other necessary food factors lead to intellectual keeness, as measured both psychologically and in other ways by using human beings as the experimental animals. The dullness of school children is often related to lack of vitamins. Studies in New York indicate that intelligence and morality tend to go together and that the more intelligent, and usually better fed children, are less likely than others to lie, steal, fail in their classes, or become delinquent.

Vitamins may thus foster intelligence, good morals, social awareness, and international peace, for that matter. Now if nutrition experts could only render all human beings masters of refection, so that they could use part of their superfluous colons, or a superfluous part of their colons, as a rumen in which to synthesize vitamins by the aid of microörganisms, what progress the race might make indeed. It might get sense enough to control the atom bomb before the bomb annihilates it.

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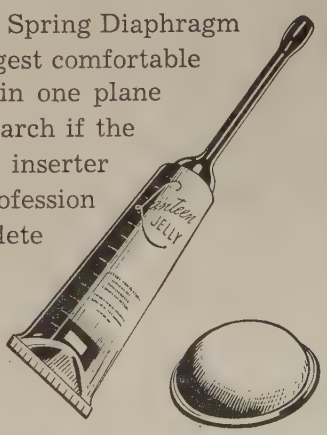

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Influenza Virus

The influenza virus, an almost infinitesimally minute living particle, not only exists in several forms but these forms are quite different and individualistic, as if they were different species of animals. This is the conclusion reached by Dr. Jonas E. Salk, University of Michigan, from investigations conducted with the aid of the commission on influenza of the Army Surgeon General's Office. Determination of differences between strains is essential for preparation of more effective vaccines. It has been recognized for some years that there are two major types—Influenza A and Influenza B. The maladies caused by these are indistinguishable insofar as overt symptoms are concerned, but their immunological reactions are quite different. A vaccine prepared from A virus is of relatively little value in protecting a person from influenza caused by B virus. The vaccine used by the Army is prepared from a mixture of both.

Dr. Salk's experiments show that within these two types there are highly individualistic strains. Since the flu viruses were first isolated, several continuous hereditary lines have been maintained at various laboratories. He tested certain properties of these strains—especially a blood-agglutinating ability—under various degrees of heat and quite marked differences were found. Like all other living things—these subcellular organisms seem bound by some fairly rigid law of heredity. Differences tend to become stabilized in families and persist.

Techniques evolved for finding these differences promise to be of some value in preparing more effective vaccine.

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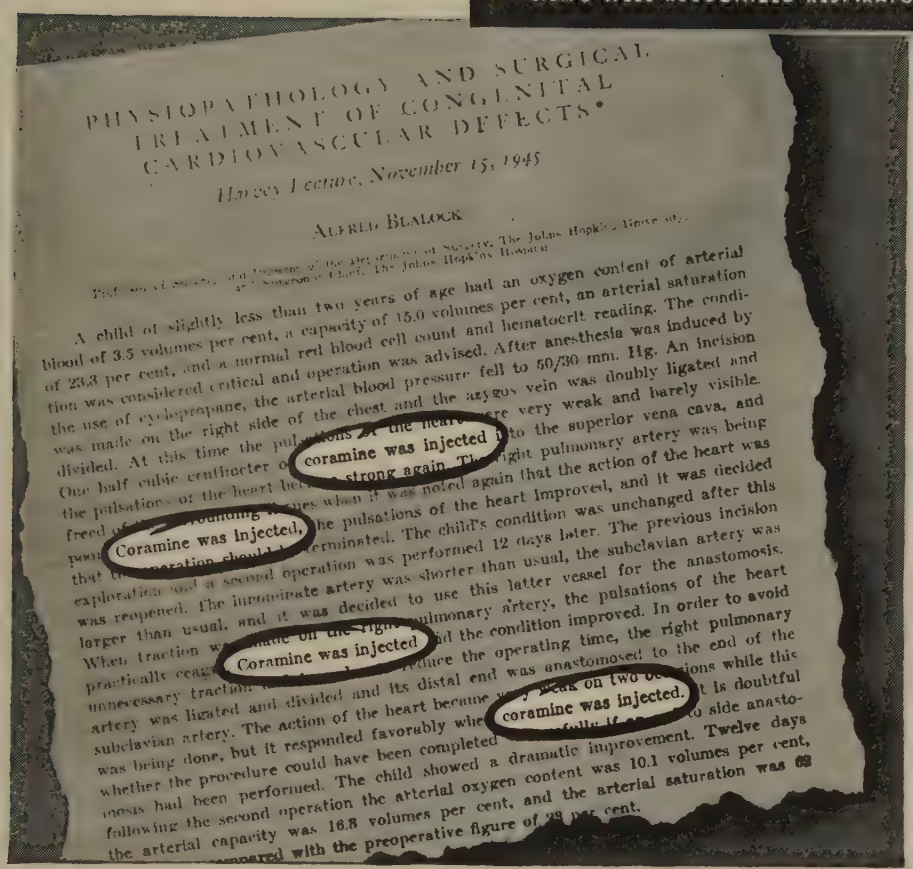

PHYSIOPATHOLOGY AND SURGICAL TREATMENT OF CONGENITAL CARDIOVASCULAR DEFECTS*

Harvey Lecture, November 15, 1945

ALFRED BLALOCK

A child of slightly less than two years of age had an oxygen content of arterial blood of 3.5 volumes per cent, a capacity of 15.0 volumes per cent, an arterial saturation of 23.3 per cent, and a normal red blood cell count and hematocrit reading. The condition was considered critical and operation was advised. After anesthesia was induced by the use of cyclopropane, the arterial blood pressure fell to 50/30 mm. Hg. An incision was made on the right side of the chest and the azygos vein was doubly ligated and divided. At this time the pulsations of the heart were very weak and barely visible. One half cubic centimeter of Coramine was injected into the superior vena cava, and the pulsations of the heart became strong again. The right pulmonary artery was being freed of surrounding tissues when it was noted again that the action of the heart was poor. Coramine was injected, and the pulsations of the heart improved, and it was decided that the operation should be terminated. The child's condition was unchanged after this exploration and a second operation was performed 12 days later. The previous incision was reopened. The innominate artery was shorter than usual, the subclavian artery was larger than usual, and it was decided to use this latter vessel for the anastomosis. When traction was made on the right pulmonary artery, the pulsations of the heart practically ceased. Coramine was injected and the condition improved. In order to avoid unnecessary traction and to reduce the operating time, the right pulmonary artery was ligated and divided and its distal end was anastomosed to the end of the subclavian artery. The action of the heart became very weak on two occasions while this was being done, but it responded favorably when Coramine was injected. It is doubtful whether the procedure could have been completed successfully if an end to side anastomosis had been performed. The child showed a dramatic improvement. Twelve days following the second operation the arterial oxygen content was 10.1 volumes per cent, the arterial capacity was 16.8 volumes per cent, and the arterial saturation was 62 compared with the preoperative figure of 23 per cent.

During prolonged surgery in poor risk patients it is not unusual for Coramine to be used several times. The number of such reports indicating dramatic life-saving results is very gratifying to the surgeon who has learned to depend on Coramine in such emergencies.

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AVAILABLE . . . . . Ampuls of 1.5 cc.
Ampuls of 5 cc.

For oral administration . . . Liquid in 3 ounce bottle
13 ounce bottle
32 ounce bottle

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In Canada: **Ciba Company Limited, Montreal**

Use of Dried Blood Plasma

According to reports received as of August 1st, for a six month period, physicians in New York State, exclusive of New York City, administered 3,184 units of dried plasma to 2,051 patients. The amount requested during the second half of this period was approximately twice that during the first half. The units correspond either to two hundred and fifty or five hundred milliliters of original plasma, chiefly the latter. The exact amount used was stated for only 1,307 patients. Of these, 355 or 27.2 percent received more than five hundred milliliters of reconstituted plasma (representing more than one liter of whole blood); 128 or 9.8 percent received more than one thousand milliliters; and 27 or 2.1 percent received from twenty-five hundred to fifteen thousand.

Review of the indications for plasma therapy revealed that the material was being used discreetly in almost all instances. Treatment or prevention of shock, associated with trauma or hemorrhage, was the most frequent reason for plasma therapy. Other common indications were dehydration, hypoproteinemia, and infectious diseases. In only 1.6 percent of the 1,777 cases for which the indications were stated did the basis for plasma therapy appear questionable; this group included thirteen patients with anemia or purpura, and thirteen with cardiac disease, with or without decompensation.

Almost half of the reports failed to note clinical or laboratory observations during and following transfusions. Most of those containing such data were limited to temperature and blood pressure readings and descriptive adjectives regarding the patient's clinical condition. Only a few noted specific gravity tests on the patient's plasma and whole blood. The copper sulphate solutions necessary for the performance of specific gravity tests, with accompanying instructions, may be obtained by directors of approved laboratories, on request, from the division of laboratories and research, State Department of Health, Albany, New York.

Information concerning reactions was given for only 2,306 or 72 percent of the plasma transfusions. In 93.2 percent of this group, no reactions were encountered; pruritis or urticaria occurred in 1.6 percent; varying degrees of chills, fever or both, in 4.8 percent; and cyanosis or vasomotor collapse in 0.4 percent. It may reasonably be speculated that the incidence of reactions was much less among the eight hundred seventy-eight transfusions for which no data was given since physicians would be more likely to report the occurrence of a reaction than the lack of one. However, it is important that the State Department of Health know of all reactions so that any toxic lot of plasma may be recalled. It is, of course, necessary that the lot number be given in all cases; actually this item was missing from 44.1 percent of the reports.

IN THE VOMITING OF PREGNANCY
or that occurring as a result of a neurosis or reflexly from relapsed kidney or uterine misplacement

PASADYNE

will be found highly efficient by reason of its marked sedative powers.
Reflex phenomena are a definite indication for PASADYNE.

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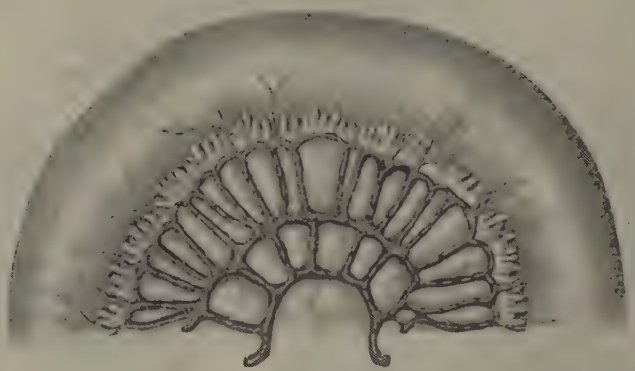
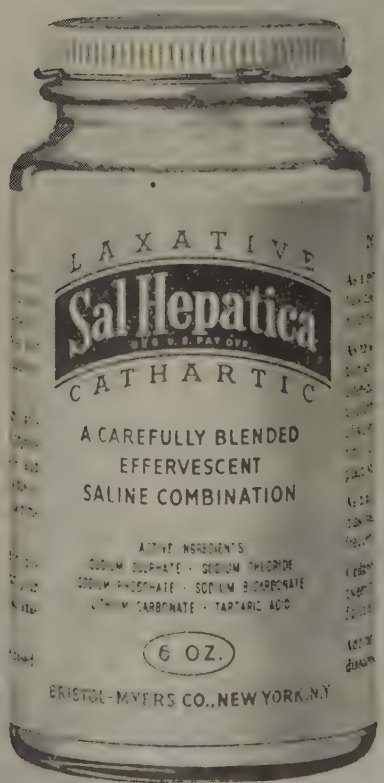
for gentle yet thorough laxation

Schematic section of villi showing fluid exchange system through blood vessels whereby water is drawn into the bowel to help form "liquid bulk."



Macroscopic view showing how fluid exchange is facilitated by drawing of excess bulk to the intestine through the highly vascularized mesenterium.



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New Antimalarials

Drugs which may be expected to effect the suppression of clinical attack of malaria have been found which may be administered once weekly in a well tolerated dose, according to Dr. James A. Shannon, chairman of the malaria study section, National Institute of Health, U. S. Public Health Service and director of the Squibb Institute of Medical Research.

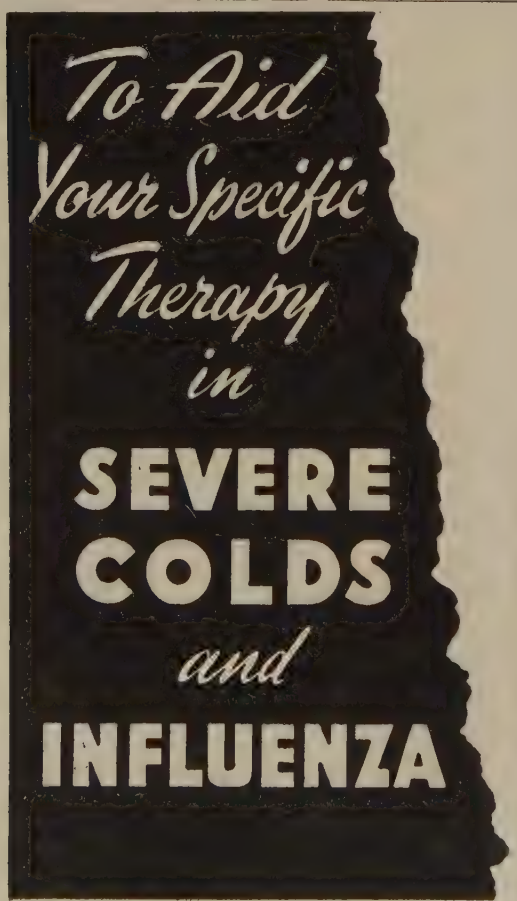
Speaking before the First International Medical Congress, he said that these drugs may also cause an abrupt termination of a clinical attack of vivax malaria (the relapsing form) and a cure of falciparum malaria (nonrelapsing form) when administration is limited to one or, at most, two days. Thus these highly effective agents will constitute a relatively simple means for the complete control of malaria in many areas due to the lessening of the administration problem of suppression therapy as compared to quinacrine which must be given daily. The new drugs which have been found superior to quinine quinacrine and pamaquine were discovered through the integrated efforts of many scientists working under the stress of wartime conditions.

The investigations were cooperative, both as to direction and execution and were closely correlated with the short term and long term needs of the armed forces of the United Nations. Since the termination of the war, these studies have been taken up as one of the normal responsibilities of the United States Public Health Service and will continue as a cooperative venture with many university and industrial groups.

The studies seeking a curative agent for vivax malaria, an agent which would prevent relapses due to this infection, have brought forth drugs superior to pamaquine. One such drug, SN-13276, or Pentaquine, when administered in a dose of ninety milligrams together with two grams of quinine daily for fourteen days may be expected to cure most primary attacks of a particularly virulent southwest Pacific strain of vivax malaria, he added. Pentaquine is also less toxic than pamaquine, so that it has a therapeutic advantage over the latter drug by a factor of about three. However, it is necessary to obtain further information on whether drugs of this type which are generally curative produce acute hemolytic episodes in the colored or mixed races before any one of them may be used freely. Dr. Shannon concluded his address by saying, that data on this possible contraindication to general use is being collected at the Gorgas Memorial Hospital in Panama.

* * *

Boeck's disease.—About the time that Oliver Wendell Holmes pointed out the contagious nature of puerperal fever, Carl Wilhelm Boeck had scabies named after him. Carl Wilhelm Boeck was born in Norway in 1808. His first published paper was on the Spedalsked Sygdom or Elephantiasis Graecorum. Boeck died in 1875.



The effectiveness of your special treatment in respiratory and similar conditions should be increased by the "bitter tonic" stimulation of the appetite induced by use of Gray's Compound.

GRAY'S COMPOUND

is a useful adjunct in treating simple coughs following colds and influenza; also in improving nutrition in the AGED, CONVALESCENTS, the RUN-DOWN, the OVERWORKED, and POSTOPERATIVE, NEURASTHENIC, and ANEMIC PATIENTS.

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EACH TABLET CONTAINS:

PANOPSIN (Pancreatin 1:90)	(2½ gr.)	0.16 Gm.
Brewers' Yeast, dried	(2½ gr.)	0.16 Gm.
Thiamine HCl (B_1)		2 mg.
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PANOPSIN-B-COMPLEX is indicated in upper digestive tract symptoms with vitamin deficiency states, in convalescence, inanition, and in chronic nutritional deficiencies.

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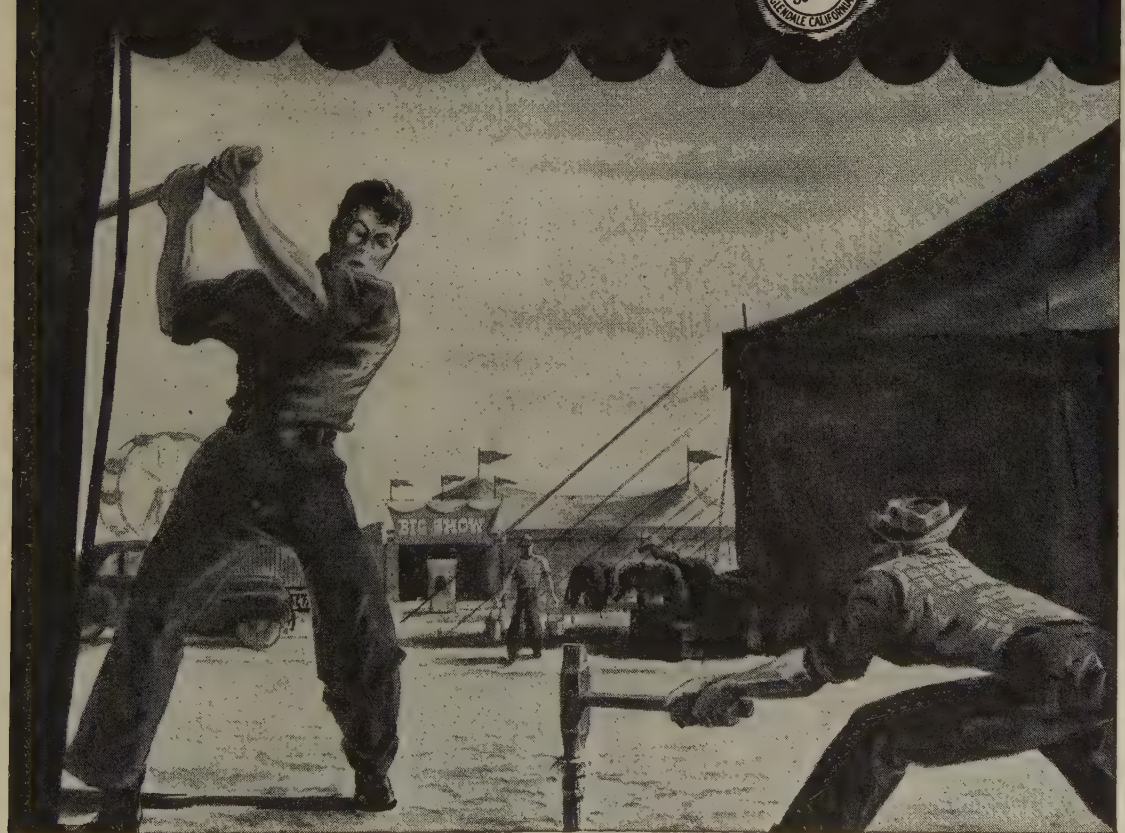

New Drug for Prevention and Cure of Sleeping Sickness

According to an American Chemical Society release a number of drugs are now being used in the medical and veterinary treatment of trypanosomiasis, however, a new drug recently developed by Dr. E. A. H. Friedheim, named Melarsen Oxide is showing promising therapeutic results even in the second or "sleeping" phase of the disease. Another new compound has now been prepared and tested by Dr. Ernst A. H. Friedheim, Rose Berman and Henry J. Vogel of New York. The chemical name of the drug is "Polymerized sodium p-(2,4-diamino-s-triazinyl-6)-aminophenylstibonate" and it contains the metal antimony. The new compound not only cures trypanosomiasis in laboratory animals, but also has a remarkable prophylactic or protective action. For example, if a healthy mouse is treated with 1/30,000th of an ounce of the new drug, it will be protected for more than three months and will not catch the disease even though infected repeatedly with virulent parasites which are close relatives of the type which produce sleeping sickness in man. The new preparation has a relatively very low toxicity so that a healthy mouse can tolerate a dose which is fifty times as large as the above mentioned protective dose.

The antimony derivative now described cures laboratory animals which are suffering from a "T. equiperdum infection", a condition which is used as an experimental "model disease" because of its similarity to human sleeping sickness. In mice a single injection of 1/200th of the largest tolerated dose is sufficient to cure the animals of this disease without relapse.

This new metal-containing compound is the first one of its kind to have such pronounced protective action. The known drugs which have a prophylactic effect in trypanosomiasis are all metal-free. A representative member of this class, Naphuride, also known as Bayer #205, was compared with the new compound with respect to its prophylactic action and it was found that when administered at equivalent dosages, the new compound still fully protected all animals pre-treated with it at the time and even thereafter, when all animals pre-treated with Naphuride took the disease and were killed by it.

The value of the new preparation remains to be proven in field tests; nevertheless, the results with the "model disease" in laboratory animals are encouraging and may in due course provide a new tool in the hands of the doctor or veterinarian in the struggle against this insidious illness which afflicts man and animals alike.

Through The Menstrual Years of Life-

THE frequency with which the menstrual life of so many women is marred by functional aberrations that pass the borderline of physiologic limits, emphasizes the importance of an effective tonic and regulator in the practicing physician's armamentarium.

In Ergoapiol (Smith), the action of *all* the alkaloids of ergot (prepared by hydro-alcoholic extraction) is synergetically enhanced by the presence of apiol, oil of savin, and aloin. Its sustained tonic action on the uterus provides welcome relief by helping to induce local hyperemia, stimulate smooth, rhythmic uterine contractions, and serve as a potent hemostatic agent to control excessive bleeding.

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Whether bringing life or guarding it, the doctor's personal life fades into the background when duty calls. He is "on duty" every minute of every hour of the twenty-four.

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According to a recent independent nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette

Critique

Vitamin E: Those interested might like to read the editorial in *J.A.M.A.* May 25, 1929, once again, if ever before.

Ultraviolet treatments: The London letter in the *J.A.M.A.* April 20, 1929, contained severe adverse criticism of medical treatment by ultraviolet radiation, from an official report of the medical research council.

Doctors and clinics: The *New York Times* April 20, 1929, ran a letter from a man who made fifty dollars a week, who found medical treatment from a private practitioner financially insupportable, and took refuge in Cornell Clinic.

Obesity Master and Oppenheimer (*J.A.M.A.* May 18, 1929) examined 91 females and 8 males between 10 and 58 years in age, weighing from 119 to 369 pounds. They said obesity was usually accompanied by fatigue, palpitation, dizziness, headache, and dypsnea which, however, would disappear on loss of weight by reduction of the caloric intake. Of those examined 67 showed hypertension, which fell on weight reduction—along with the pulse rate. Blood pressure increased with advancing years, though when under 30 the obese are more efficient than and have a slight advantage over the normals. The obese usually have distinct circulatory embarrassment and form poor surgical risks, as if you didn't know. See also *Medizinische Klinik* (25 1929 373) E. Grafe, on the theory and practice of reducing treatments.

Hospital and public: Morris Fishbein, writing on "The Hospital and the Public" in the *Transactions of the American Hospital Association* (vol. xxix, 1927, p. 163) said: "I would not insist that the first duty of the hospital is hospitality, but I would suggest that at a time when scientific medicine is paying more and more attention to the influence of the mind on the healing of disease, it might be well for the hospital to also recognize that the patient is something more than a disordered machine. The point would seem hardly worthy of mention, were it not for the fact that a considerable number of persons have told me personally and many others have written to the *Journal of the American Medical Association* of treatment in hospitals that should not have been accorded to a well man, much less a sick one." Dr. Fishbein also stated that it was then no secret that at least three hundred hospitals existed which were grossly misconducted and entirely unethical. He might still find plenty of such hospitals today. Recent study disclosed that the capital city is near the bottom of the heap in respect to hospital accommodations.

Control of human development: In 1929 Oscar Riddle told the American Philosophical Society this: "The development of a generation of giants, for example, would mean no transmission of inheritance of gigantism, since no change is made in the combination of genes carried by these giants. If each next generation wants its giants it must make them, just as it must make its educated men. Here we get a close view of how this powerful creative work on the part of man may affect the thought and purpose of the man of tomorrow."

Rural health: Assistant Secretary of Agriculture Charles F. Brannan—he is a former Farm Security Administration employee — appeared recently before a Senate committee to testify that a single national plan of compulsory health insurance, supplemented with general tax funds, is needed to meet rural health requirements. He stated that, in 1944, the most urban of the states spent two dollars and ninety-two cents per person for relief and welfare, while the most rural state spent only twenty-five cents! Federal-State aid on a basis of per capita income would, however, assure more equalized health opportunities. It should not be forgotten that the Selective Service disclosed a far lower health status among rural than among urban people, though the reverse would be expected. Big cities have a sixty percent higher hospitalization rate than farm areas. Health insurance is required to produce full use of hospital beds and other medical facilities in rural areas. Farm counties struggle along with one doctor to three thousand to five thousand population, whereas the ratio should be one to one thousand. This situation constantly grows worse, as modern hospital-trained doctors prefer to settle where the facilities to which they have become accustomed are fully available and, incidentally, where the incomes are higher.

While the Social Security bill suggests three percent of income for health services, farm families spent 8.7 percent of their income for very inadequate service in 1941. Voluntary health insurance experiments do not work, said Brannan, because of incomplete participation, especially by low-income groups. Blue Cross and other medical society plans of this sort he held, were geared to city incomes and adequate hospital facilities, not to rural conditions. He advocated passage of the Wagner-Murray-Dingell Bill. After all, rural areas make up forty-three percent of our total population and should have due consideration. In 1943 the per capita income of all nonfarm persons in the United States was over two and one half times that of farming, and farm families could spend only half as much for medical needs as urban people could afford. Said the Assistant Secretary: "Only a nationwide plan has the actuarial soundness to provide equally comprehensive medical care to those in cities and those in the country, to the economically insecure as well as to the prosperous."

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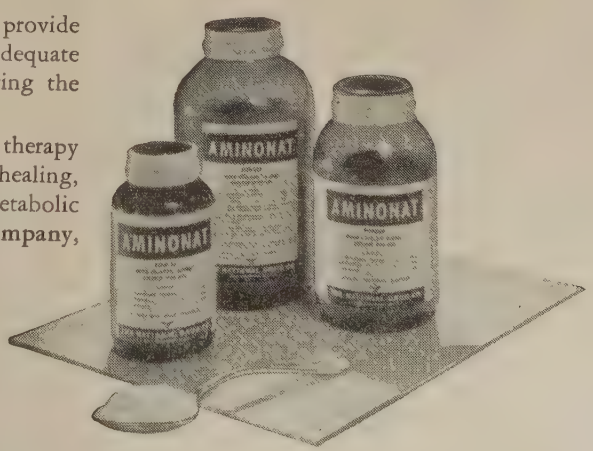

Aminonat

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Quotations St. Mark (v 25-26) "And a certain woman, which had an issue of blood twelve years, and had suffered many things of many physicians, and had spent all that she had and was nothing bettered, but rather grew worse." Think how long this has gone on! Plato (*Politics* v 298) said, "Physicians heal those among us whom they wish to heal and injure those whom they wish to injure by cutting and by burning them and putting them to expense as tribute, of which they apply little or nothing to the patient's welfare, and use the rest for themselves and their fellows. In fine, they take money as compensation, even from the patient's relatives or enemies, in order to kill him." But, as La Bruyere more philosophically put the matter, "As long as a man is sick and wants to live, he will employ physicians and abuse them."

Any bedbugs today?: A few years ago a man entered a drug store and tried to buy ten thousand cockroaches, five thousand bedbugs, and similar quantities of other assorted pests. He explained that he was about to move from an apartment in which he had resided for a number of years and the lease required him to leave it in the same condition in which he found it! This leads to the unsavory thought that experts claim there are a thousand different kinds of cockroaches, more or less, probably the former, and four are so domesticated that they find maximum happiness only around a house. They vary from the small reddish insect found in many American homes to the German croton bug, the slipperiest, quickest, smartest, and meanest of the lot. *Blatta orientalis* has actually been recommended by an authority as a household pet because it could not bite to pierce the human skin and preferred a diet of bedbugs.

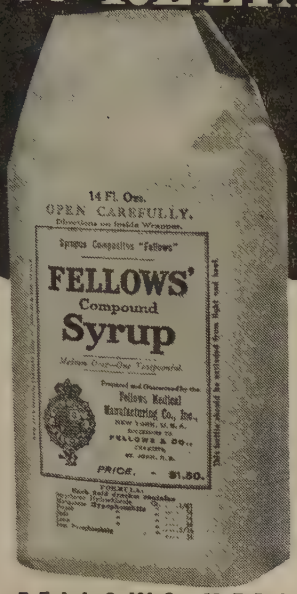
When the cockroach and the bedbug first appeared in England, in 1583, they were omniverous, very easy to entertain, and dined on organic refuse and, not infrequently, one another, which was a very helpful trait. We have to thank a Fellow of the Entomological Society of London for that information, but if you want to get rid of household pests direct yourself to the Bureau of Entomology and Plant Quarantine, Department of Agriculture, Washington 25, D.C.

Wheat: Secretary of Agriculture Anderson went out to North Dakota in the latter part of April to find wheat that could be used to alleviate world famine. He found it. This state had more wheat on farms than any other—about sixty million bushels. You never can tell about what these states produce. Did you know that one Nevada county has more livestock in it than any other in the U. S. and that California has more cows on test and a better milk and butter-fat production per cow than the dairy states, and that the dairy industry produces more income from it than any other agricultural enterprise —citrus fruits included? To get back to North Dakota, the farmers there assured the Secretary of Agriculture that forty million bushels of their holdings could be made available for shipment to Europe. The flow of wheat was stimulated by a bonus of thirty cents per bushel over the market price, payable for wheat delivered before May 25, 1946. But requisitioning wheat from farmers was out of the question. In one April week we had to cancel sailings of twenty-one ships because there just wasn't wheat available to fill them. From January 1st until April 20th we did ship more than one hundred million bushels, but that left us behind our goal. The Secretary said: "All of us must tighten our belts and grimly resolve to eat less wheat, less bread, cake, pastry, and other wheat products. The total supply of wheat is so short that we cannot expect to continue to eat wheat and its products at anything like our usual rate and still meet our high obligations to the hungry people across the seas. From now until midsummer, when the grain harvest in Europe begins, I hope every American will think of every bite of bread as being just so much food that is denied a hungry child in Europe. We must deny ourselves in order that others may live. In the name of humanity we can do no less."

Educational relations of the professions: That title of an article by David Allan Robertson in *J.A.M.A.* April 27, 1929, sounds formidable but the article contains a great deal of stimulating information about the care that could be used in selecting students later destined to enter various professions. According to the author these tests effectively show whether the student can make the grade or not before he has gone ahead and flunked and lost interest and while there is still time for him to change over to something else more suitable. Robertson argues that the tests would be of great utility in determining that the most suitable sort of students only study for the medical profession and become doctors.

Palatable Institutional Diets A British doctor unexpectedly confined in a hospital as a patient recently commented on the deliberate effort apparently made to render hospital food unpalatable. He was able to do nothing to change the system, however. In the *Journal of Home Economics,* for April 1929, there was an article by Bessie Brooks West and Ruth Okey of the University of California on the Cost and Nutritional Effect of Making an Institutional Diet Palatable. It is still enlightening. As a matter of fact, when the diet was rendered more palatable the per capita cost of meals dropped from 39 to a mere 24 cents. Large-quantity cooking was treated as a nutritional rather than as an engineering problem. The food was better eaten and those who ate it were better off under the new regime. The Critic

A RELIABLE BITTER TONIC



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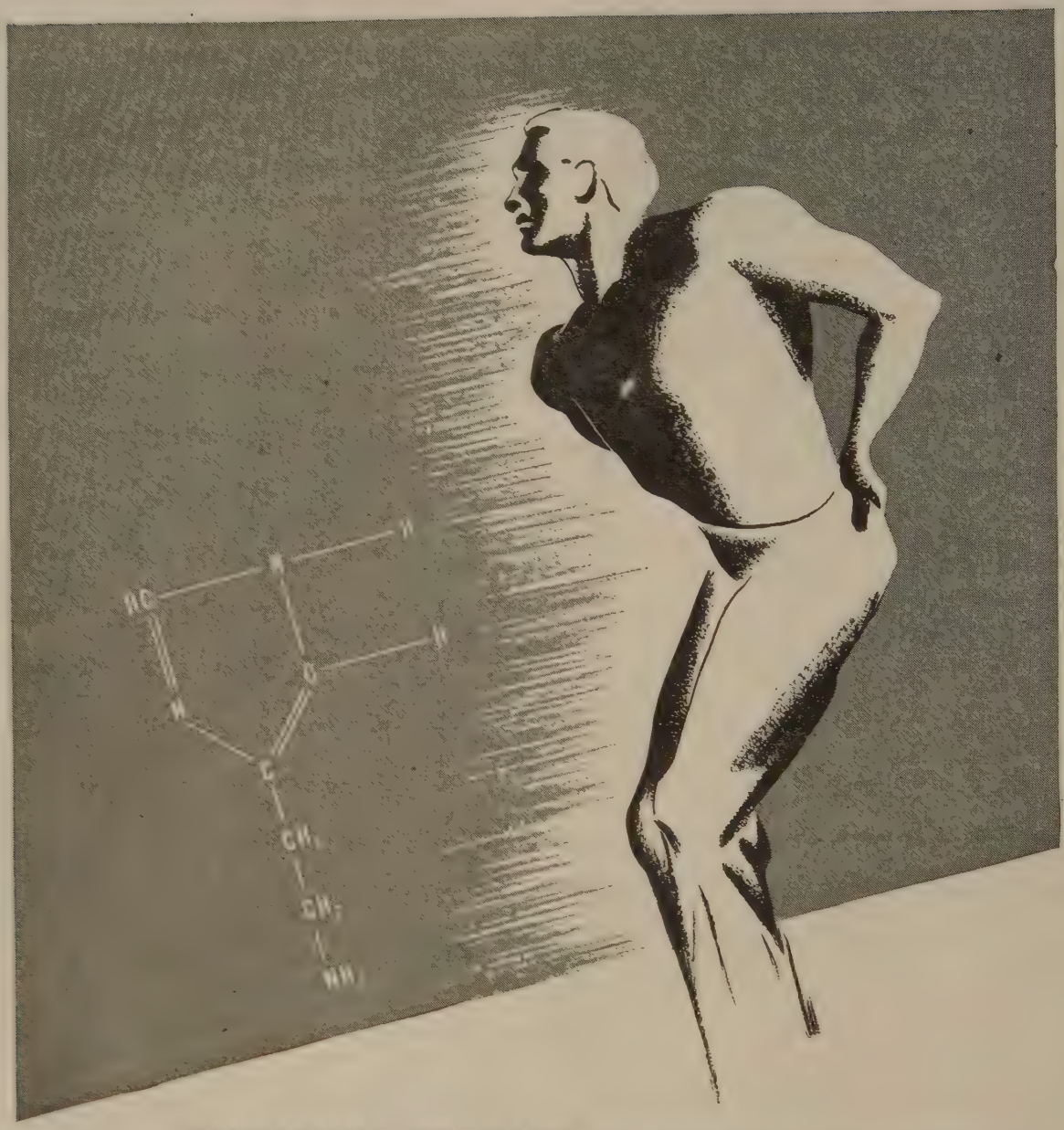

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VOL. 159, No. 11 · NOVEMBER 1946 · WHOLE No. 2766

THE USE OF X RAYS IN OBSTETRICS

Plus a Presentation of Some Medicolegal Aspects

LOUIS J. GELBER, M.D.
Rockville Centre, N.Y.

When we consider that over eighteen thousand women die annually during childbirth in this country alone, it would appear that any diagnostic procedure that serves to lessen this mortality would meet with general acclamation by the medical profession. By means of a routine pelvic roentgenographic examination, the obstetrician can obtain more information concerning the size and conformation of the pelvis, the size, form and position of the fetus in *utero* plus the relationship that the head bears to the pelvic canal, than he might possibly tell by means of repeated pains-taking examinations extending over a period of months. Many obstetricians such as Thoms (1,2) use x rays as a routine in all primiparas. Others such as Chassar Moir (3) Jacobs (4), McSweeney and Moloney (5) and Weinberg and Scadron (6) recommend this procedure in borderline pelves and other possible causes of dystocia. Baylin and Lambeth (7) demonstrate its usefulness in the diagnosis of placenta previa. There are numerous other complications such as anencephalus, hydramnios and fetel death that may readily be diagnosed by x ray. The time is rapidly approaching when the roentgen examination will be a routine procedure in practically every case of pregnancy.

Indications for X Ray Use

Chassar Moir (3) defines obstetric disproportion as the malrelationship of the fetal head and the maternal pelvis. It is therefore of little avail to study the one without the other. While cephalometry presents many difficulties, the author's roentgenographic method was helpful in estimating the size of the head in ninety percent of cases. The author adds that where the head can not be directly gauged against the pelvic brim as in breech presentation, cephalometry and pelvimetry assume a major importance. Even a slight degree of disproportion may then be a serious obstacle, for molding has no time to develop and a misfit if present becomes evident when it is too late to avoid disaster. An allowance of 2 to 3 mm. should be made as an estimate of molding in the average case. Molding is safe up to a certain point but after this it becomes a danger to the fetus. Molding is effective in overcoming the resistance offered by a rickety flat pelvis (contraction in one dimension) but is less effective in a generally contracted pelvis. X ray reveals the type of pelvis. When disproportion occurs, it should be remembered that the biparietal diameter of the fetal head increases 1 to 1.5 mm. weekly in the last month of pregnancy.

Thoms (2) as previously stated, recommends the routine x raying of all primiparas. Over a period of seven years, this has been done in his clinic and nearly two thousand patients have thus been surveyed. The results have been convincing for not only have numerous unsuspected pelvic anomalies been discovered but clinically significant variations have been noted that otherwise would have remained undetected. Certain facts have become apparent in his extensive experience: 1. The incidence of trial labor, a procedure which is subject to great abuse, has been lessened. 2. The incidence of the difficult forceps operation has also decreased. 3. The fetal mortality in primiparas with breech presentation has definitely lessened. 4. It does not appear that routine roentgen studies tend to radicalism.

In eleven hundred primigravid white women consecutively delivered at term, (child 2500 gm. or over), Thoms' figures for major operative procedures are: Ceasarean section twenty-six times or 2.3 percent, version and extraction five times or 0.4 percent, mid forceps thirty-nine times or 3.5 percent. Put in another way, 93.8 percent of this group of primiparous women were delivered without resorting to any major operative procedure. It should be obvious that a number of the above operations were done for indications other than cephalopelvic disproportion. In one group of patients, it is certain that the roentgen survey has definitely decreased the incidence of Ceasarean section and in many cases of unengaged head in primiparas at term or even in early labor where the palpatory method may have suggested apparent disproportion, x ray pelvimetry has demonstrated ample pelvic space and has shown that a conservative course could be safely

followed. He concludes with the statement that the proper conduct of labor must always be carried out with the least possible trauma to both mother and child and the roentgen survey of the pelvis is one of the measures which will greatly aid in this desideratum.

Jacobs (4) gives a report of seven hundred forty-two women with borderline pelves. He states that this condition may be detected by x raying every primpara with a diagonal conjugate of 11.5 cm. or less and every multipara with one of 11 cm. or less.

McSweeney and Moloney (5) give the following indications for pelvic x ray: 1. Primparas with floating heads at term. 2. Multiparas with a history of previous difficult deliveries. 3. Primiparous breeches with apparently small pelves by measurement. 4. Cases with narrow subpubic arches and outlets. 5. Elderly primparas with an external conjugate of 18.5 cm. or less. They add that with this method of combined external pelvimetry and roentgen pelvimetry, the incidence of Ceasarean section at the Boston City Hospital has been reduced by fifty percent with no increase in fetal or maternal mortality.

Weinberg and Scadron (6) in a series of two hundred eighty cases in which dystocia was expected, had the patients x rayed and divided them into four groups: no disproportion, borderline, relative and absolute, with prognosis as good, fair, guarded and poor, respectively. They reach the following conclusions: 1. X ray prognosis was correct in 97.9 percent. 2. As the prognosis becomes worse, the incidence of operative deliveries increased. 3. Ceasarean section was necessary for good results when poor prognosis was given by x ray pelvimetry. 4. In fifty-two cases in which Ceasarean section was considered likely, it was performed in forty-one and should have been performed in seven more as indicated by disasterous results following vaginal delivery. 5. Half of the stillbirths could have been avoided if the radiological advice had been followed. 6. The Ceasarean operation was more accurately limited to those cases in which it was essential.

Baylin and Lambeth (7) correctly diagnosed placenta previa by x ray in fourteen out of sixteen cases and differentiated between marginal and complete placenta previa.

McLane (8) asserts that eventually roentgenographic pelvimetry may become a routine part of the obstetric examination. He regards the procedure as now indicated for primiparas over thirty-five years of age, all primiparas with breech or other abnormal presentations, all cases of contracted pelves, all patients who had previously had difficult deliveries and all patients in labor who are not making satisfactory progress. The cephalopelvic relationship may be estimated and a prognosis made upon the basis of the findings from his technic of isometric roentgenographic pelvimetry alone, states this author.

Beck (9) lists several indications for x rays in pregnancy and gives the opinion that while ossification centers have been demonstrated as early as the sixth week, they are quite faint and a positive diagnosis of pregnancy cannot be made roentgenologically before the fourteenth to sixteenth week. Later, the outline of the fetal skeleton is easily discernible and as a result, the x ray is one of the best aids in differentiating pregnancy from a large tumor. In addition, it is an excellent means of determining presentation, position and posture, multiple pregnancy and dead fetus. Also, in hydramnios, because of the frequent occurrence of malformations, an x ray examination should be made even before the symptoms become alarming.

DeLee and Greenhill (10) give a particularly comprehensive list of indications for x rays in pregnancy,—in fact twenty indications are listed. They advise x raying the pelvis in many primiparas at the sixth month before the bony fetus can overshadow the details and also one near term. In addition to plates made in the semirecumbent position which show the inlet and outlet, profile views are needed. From these we can learn the shape of the sacrum, the width of the great sacrosciatic notch, the length of the conjugata vera and the method of approach of the head to the birth canal.

Of DeLee and Greenhill's twenty indications for x ray in pregnancy, the author has listed a condensation of the ten which he regards as most important: 1. To diagnose the presence of pregnancy, especially to differentiate a gestation from a tumor. Fetal skeleton is absolute proof of pregnancy. 2. To detect multiple pregnancies. (Lateral as well as anteroposterior views are necessary). 3. To verify fetal death. (X ray shows overlapping of skull bones and collapse of fetal body). 4. To visualize malpresentation of a baby; e.g., transverse, breech, face or brow. 5. To determine the size of the baby. (This may be necessary in women with an irregular menstrual history not seen in early pregnancy and in diabetics where fetus usually becomes abnormally large.) 6. To detect hydrocephalus or anencephalus. 7. To determine size and shape of the maternal pelvis and coordinate it with fetal head measurements. 8. To determine size of baby's head. 9. To aid in diagnosis of placenta previa. 10. To study the mechanism of labor.

Roentgenography

The author's experience has proven that in the following obstetrical problems, roentgenography has been of considerable help in establishing the diagnosis: Position and presentation of the fetus, diagnosis of intrauterine death, differentiation between pelvic tumors and pregnancy and discovery of disproportion between the pelvic inlet and the fetal head.

When seeking roentgenologically to determine the presence of pregnancy, negative roentgen findings in the third and fourth month are not uncommon. In the fifth month however one invariably receives positive findings. An extra-

medial position of the fetus is indicative of extrauterine pregnancy only when the skeletal part of the child coincides with an isolated tumor near the uterus. In an extrauterine pregnancy that has gone to term, the fetus is placed quite asymmetrically in the pelvis.

The roentgen diagnosis of fetal death has long been a matter of much discussion. The x ray signs however which we most frequently observe are overlapping of the skull bones, collapse of the thorax and angulation of the spine. When the roentgen estimate of age is significantly less then the duration of gestation, the probability of the existence of a dead fetus must be borne in mind.

X Ray Preparation

In order to recognize the earliest signs of osseous development, it is important that the woman's bladder be emptied prior to taking the plates. The intestines should also be emptied thoroughly by enema because fecoliths or fillings with contrast media produced by gases in the intestines often render a recognition of fetal parts impossible. The skull and adjoining vertebral column are apparently the earliest demonstrable parts. In fact, the roentgenogram of the fetal skeleton is one of the earliest demonstrable positive signs of pregnancy (fetal movements and fetal heart sounds occur at about the same stage). In spite of the fact that the fetal skeleton can be detected on x ray films as early as three and one half or four months, the x ray evidence prior to the fourth month is open to question. Even when a good film has been obtained as early as the fourth month, the entire skeletal structure can not be outlined insofar as only a portion of the skull or a few vertebrae may appear. However, it is important to know that the occipital bone is usually the first osseous structure to be observed. As far as the vertebral column is concerned, it seems that the cervical vertebrae are the first to make their appearance and the remainder of the spinal column develops from here down roentgenologically.

We also must not lose sight of the fact that ossification centers occur in the occipital bone as well as in the upper cervical vertebrae as early as the eighth week, yet in spite of this, the x rays will not cast shadows until enough calcium is deposited in these bones. As a result of this, roentgenograms taken at about four and one half months will reveal one of the earliest signs of pregnancy. When the fetus happens to lie transversely in the uterine cavity with its back presenting, almost the entire fetal skeleton will be observed in the plate.

Gas, intestinal and pelvic contents together with the tilt of the pelvis and the relation of the sacrum to the skeletal shadow may offer sufficient resistance to the passage of the rays through the pelvis so that the resulting accumulation of shadows apparently wipes out the early fetal skeletal shadows on the plates. These conflicting shadows illustrate to us how important it is to have adequate preparation of the patient.

Another important point to be borne in mind in taking x rays of the fetus early in pregnancy is the position of the patient. The uterus before mid-term does not rise very high in the abdomen, therefore if the roentgenogram is made in a straight anteroposterior or posteroanterior position, the fundus which lies below the level of the iliac crests is covered by the shadow of the sacrum with its dense promontary plus that of the fifth lumbar vertebrae.

Technic

The technic of Thoms (1,2) is usually used. The patient is placed in the recumbent position plus one of exaggerated lordosis by placing sand bags underneath the lumbar spine. Her body is raised so as to bring the region of the inlet horizontal and as nearly parallel as possible to the plate underneath her. The level of the inlet is determined by palpation of the pubis and the top of the rhomboid of Michaelis — which are marked,one with a plummet hanging from above, the other with a lead tab and calipers. After the plate has been exposed, the patient is removed without disturbing the tube or casette and a square of lead perforated in centimeters is adjusted in the exact level of the space occupied by the patient's inlet. Now the ray is turned on for a moment, double exposing the film which will show the centimeter scale over the figure of the pelvis and permit us to read its diameters directly, allowing for an error of 2 to 5 mm. In taking the film, it is well to remember that if the central ray is directed through the pelvis in the axis of the superior straight, the entire true pelvis can be seen from below upwards without any overlapping of the sacral or pubic shadows. A second film should be taken in the lateral position with the centimeter scale as before.

Fetal structures might be shown if the patient has been well prepared. We must however bear in mind, that the liquor amnii, increased amount of blood to the uterus, scattered radiation from the enlarged maternal structures, poor lime depositis in the fetal bones and intestinal contents and overlying pelvic structures all tend to increase the difficulty of projecting good shadows.

Comment

In view of our present day knowledge, the roentgenologist and the obstetrician who understand their problems may proceed without fear of doing harm to the fetus regardless of its stage of development because it has been estimated that in making a film of the pregnant uterus, only about one-fiftieth of an erythema dose is used. Futhermore, the effects of x ray radiation upon tissues in general is usually exhausted in about four weeks and hence one may feel safe in exposing the fetus in utero several times during a given pregnancy, provided that it is done no oftener than once monthly. Warnekros of Dres-

den has taken numerous consecutive roentgenograms consisting of eighteen exposures during the mechanism of labor and even during actual delivery and has noted no ill effects upon the child. We may therefore conclude that four or even five roentgenograms taken during a given pregnancy at proper intervals will certainly not harm the fetus.

Medicolegal Aspects

DeLee and Greenhill (10) make the statement: "In every case in which an operation is contemplated for an abdominal tumor, if there is any possibility that a pregnancy is present, the physician must make a roentgenogram and have an AZ or Friedman test performed. These procedures must be carried out not only to prevent an unnecessary operation but also to protect the physician from a law suit in case the operation reveals a pregnancy".

Examples of the necessity for following this advice are legion. X rays are indeed a great help to the obstetrician when at some time he has his back against the wall. For example, "a young healthy woman, pregnant for the first time and at full term, had been in labor about fourteen hours without any progress. After careful examination, a Ceasarean section was decided upon. This was performed and an anecephalic monster was delivered which died in a few minutes". You may imagine the great amount of criticism that this obstetrician received from the family. However, if a roentgenogram had been made prior to the operation, the family could have been informed of the true state of affairs and an operation avoided. Luckily the mother recovered but the obstetrician did not.

Many a surgeon has had the experience of entering the pelvis to remove a fibroid uterus only to find, much to his surprise, that a four or five months pregnancy was present. Not only would a possible suit for malpractice be avoided but also much embarrassment if the surgeon had followed the simple routine of taking a roentgenogram when doubt existed.

Insofar as the incidence of Ceasarean section is obviously upon the increase and although the mortality rate is considerably less than it was a decade ago, there is still room for improvement. There is no doubt that there is no operation more satisfactory in a good obstetrical practice than a well performed Ceasarean section resulting in a live and normal baby—provided such an operation is indicated. However, it is extremely important to save a woman from undergoing the risk of an unnecessary major operation which may endanger her life when there is extricated merely a dead or malformed fetus. Because of this point alone, it seems but logical to insist that x ray plates be taken before every Ceasarean operation. Finally, a roentgenogram not only gives us information about the bony structure of the pelvis but also tells us the position of the fetus, the number of pregnancies present, whether the fetus is a monster or is dead and finally it tells us whether we are dealing with pelvic tumors simulating pregnancy or any of the concurrent miscellaneous conditions.

A recent case in Tennessee (12) consisted of a patient aged twenty-six who first consulted the physician telling him her belief that she was pregnant inasmuch as her last menstrual period had occurred four months previously. She was then examined and told that she had an ovarian tumor and an operation was advised. Upon operation she was found to be about three and one half months pregnant and the incision was closed. Suit was brought against the physician alleging malpractice, in view of the fact that the defendant physician testified that he found a small tumor upon operation but pregnancy made it inadvisable to remove it. Bleeding grew progressively worse while the patient was in the hospital, finally resulting in a miscarriage two weeks after the operation. The plaintiff's lawyers claimed that the operation was unnecessary and was performed because of a mistake due to unskillfulness, carelessness, negligence and improper diagnosis of the condition. The physician defended himself by testifying that he was apprehensive of pregnancy when he operated. Neither the patient nor the husband nevertheless were told by the doctor that pregnancy was even suspected, and their consent to an operation was based on the defendant physician's statement that he was positive that she was suffering from an ovarian tumor. The case resulted in a verdict for the patient which was sustained by the Court of Errors and Appeal as well as the Supreme Court.

Comment

When a patient is pregnant and a surgeon operates without any definite apprehension that the patient might be pregnant, it is a clear presumption of malpractice. The jury was justified in holding the defendant negligent in acting upon too hasty a diagnosis. There is no question in the author's mind that if this patient had been subjected to an x ray examination, had any doubt existed as to the possibility of differentiating between a pregnancy and a tumor, a great deal might have been learned. To minimize the efficacy of x rays for suspected pregnancies would be equivalent to overlooking a very important laboratory procedure.

In another case (13) a uterine tumor was mistaken for a four to four and one half month pregnancy by a surgeon who removed the appendix and then closed the incision. The tumor was removed at a subsequent operation by another surgeon. The first surgeon died meanwhile and the patient brought suit against his estate. Judgment for the patient was subsequently reversed.

Hayt (14) gives two cases where pregnancy

was overlooked and mistaken for a tumor and intensive deep x ray therapy (in one instance six, forty-five minute treatments being given), resulted in the birth of a permanently crippled feeble-minded child and a second similar case resulted in the birth of a microcephalic idiot. Both cases occurred in Illinois. The first was dismissed upon the grounds that a child could not sue for injuries received prior to his birth. In the second case motion to dismiss was denied by the court who stated: "Whereas here, the defendant is a doctor who knew or should have known of the existence of the child, he owed a duty to that child. If that duty was disregarded and through his negligence the child was injured while the mother was quick and if it is born viable, then action should lie on behalf of the child for the damages occasioned it".

To summarize, I might state that roentgenology in obstetrics is a relatively new field and might by some be looked upon as a laboratory aid. However, if this procedure is beneficial in diagnosing cephalopelvic disproportions, also in clearing up the differentiation between tumor and pregnancy and also deformities or death of the fetus, as well as preventing possible law suits, I believe that this procedure is important enough to follow through as a routine in many obstetrical cases.

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NOTES ON CANCER

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A young woman who was a trained nurse, came to me rather excitedly and told me that she had recently been with a patient who had suffered from intestinal troubles. The attending surgeon had made a diagnosis of intestinal cancer, opened the abdomen and found his diagnosis to be correct. He excised a large part of the intestines with the carcinoma, and as a result, all pain and other complaints of the patient stopped, his appetite returned and nausea and vomiting ceased. The patient improved rapidly in every way and gained five pounds in weight during the few days he stayed in the hospital. He was then sent home and has since reported continued improvement. The trained nurse added that nobody knows how to explain the case.

This case recalled similar ones which the author had in his own practice. He was then corresponding with Dr. L. Duncan Bulkley, who was at the time in charge of the cancer hospital in New York where he treated his patients with a vegetable diet and gave careful guidance to aid sufficient elimination of bowels and kidneys and thus reported several excellent results. Unfortunately the results of his cures have not been confirmed by other clinicians. The writer gave Dr. Bulkley the histories of some of his patients who had been cured of cancer under a general supporting treatment; these cases were later reported by him in one of his books. The following are some of the cases which were not published.

Case Histories

CASE I.—A woman, aged fifty-five, was operated upon by a noted surgeon who amputated the cervix and finding that it was carcinomatous told her that he would have to remove the womb and ovaries. She flatly refused to have this done and instead came to my office and was given general supporting treatment and careful guidance to aid proper elimination. She recovered rapidly and completely and about ten years afterwards died from a fractured skull after a fall.

CASE II.—A woman with a hard tumor, larger than a hen's egg, in the pyloric region of the stomach presented herself for examination. The surgeon who was called in for consultation advised an immediate operation. She, like the other patient, flatly refused to have the operation performed. Under general supporting treatment the tumor disappeared and she recovered completely, living years afterwards in perfect health and dying late in life of influenza.

CASE III.—A patient, who was the wife of a physician and who was later permanently cured of

cancer, was sent to me by him for diagnosis and treatment. The diagnosis was ovarian tumor and so she consented to an operation. The surgeon opened her abdomen and found a very large ovarian cyst. While lifting the tumor carefully out of the abdomen it broke and the contents spilled into the abdominal cavity. He sponged out a part of it, but of course could only remove a small quantity and then closed the wound. In the meantime, the contents were examined by the author who was present at the operation and were found to be of a malignant nature. The diagnosis was confirmed by a pathologist of the hospital to whom a specimen was sent. The operating physician said that "within six months this abdomen will be filled with cancerous growths and the patient will die a miserable death". She was treated after the operation, just as the others had been, and she improved rapidly and is still living today. She came year after year for reexamination but no return of the growth was ever found. The patient's sister died about two years ago of cancer of the breast after an operation. There had been no cases of cancer in their family for several generations past.

There was no explanation to offer for such remarkable recoveries, hence these cases were not published at the time. No doubt many physicians have treated and are treating patients who have recovered miraculously from cancer, but, as in the writer's case, have not reported these cures because they had no explanation to offer.

All these cases proved to the author that cancer is a constitutional disease, not a local disease and that it is curable by medical treatment. The workers in cancer research must find the substance which performed these miraculous cures and prevented the return of the disease for so many years.

Treatment

In the opinion of the author, the substance that has cured and is curing cancer and prevents a return, is probably a hormone which acts to stimulate the cell growth, which in turn forms a cancerous tumor, if there is an external cause, in a person who has a tendency to develop this dease. This hormone, acting anabolically, which produces the cancer, will within certain patients, produce a hormone, acting catabolically, which will stop the cell growth and produce immunity in the patient. It is also the author's opinion that the cases of prostatic cancer reported in this country and in England cured by the administration of estrogen, support this view.

Patients who have been permanently cured of cancer with or without surgery, in other words, those who have not had a return of the disease after many years have elapsed, like the patient who has been observed for thirty-five years and who was so miraculously cured, are perhaps generators and carriers of a protective hormone. Unfortunately the patient mentioned by the nurse has not enjoyed his apparent recovery for long since all the symptoms of a serious intestinal disease have returned and he is now being treated by deep x ray and radium. Thinking along this line of treatment it seems reasonable, though primitive, that the blood and lymph of patients who have recovered from cancer with surgery and who have been free from a return of the disease for a number of years, are the carriers of a protective hormone. Otherwise, why should some of these patients after a radical operation have a return of the disease and others completely recover, unless perhaps some have the faculty of producing a protective hormone and others have not.

Considering the treatment of the cancer patient at the present time, with these ideas in mind, we must settle the question of whether these people who have recovered from cancer carry a protective hormone. This can be done by injecting infected animals with the potential hormones of such patients and if the results are encouraging and successful, then the intramuscular injection can be given to patients who are hopelessly ill and considered inoperable, unless by this time other more refined methods of research have discovered and isolated a protective hormone.

There is no doubt in the writer's opinion that the hormone which causes cancer and at the same time produces recovery and immunity will be found circulating in the blood, or in the secretions and excretions of patients who have recovered from cancer. Here is an instance that such a hormone must be produced and that it acts in the system. The yaws germ Treponema pertenue is so closely related to the syphilis germ Treponema pallidum that the two are hard to tell apart. Both diseases progress in three of four stages; the third is the arterial and nerve lesion stage, causing sometimes general paralysis of the insane; both diseases are treated with the same remedies but the same person never has both, since the two germs cannot live in the same host. This indicates that these diseases must produce hormones which are toxic to each other.

In 1919 the author published a book *Rational Therapy*, Southworth Company, Troy, New York. The "Introduction" stated that the book was written to prove that blood alone cures, and that we as physicians could only help change its composition and its circulation to cure our patients. The book was well received by physicians such as Dr. Oliver Thomas Osborne, professor of therapeutics, Yale University; Dr. J. Madison Taylor, professor of therapeutics, Temple University and Dr. Selye W. Little, prominent specialist in research on cancer. One publisher said that the book was a reform and that the author would never get any credit for it, as no reformer ever had. Another said that it was twenty years ahead of the time. Not twenty years, but over a quarter of a century has now passed since the book was published and another edition is now being prepared and brought up-to-date. At the time the book was written, little was known of vitamins, their composition and function. It was well known that they were protein substances, but not much more was known; also very little was known about hormones themselves. If the hormone in the patients who have so miraculously recovered from cancer produces another hormone which they carry,

and which checks cell growth, there is every possibility that it can be discovered, isolated and administered to other cancer patients and will probably cure them.

Before closing the author wishes to give a few notes on the present aim of cancer research and treatment taken from an article "Prospects of Controlling Cancer" by Dr. Morton L. Levine, New York State Department of Health, in an address delivered in Providence, R. I. *Health News,* April 1, 1946, in which he stated that appraisal of the prospect for controlling cancer was desirable for two reasons: first, to help guide the plan of attack on cancer; second, to indicate to what extent the prospect of controlling cancer depends on the laity.

"Cancer control", he stated, "is a matter of self-preservation. First, for two hundred thousand persons who will receive initial treatment within the next twelve months. Secondly for the twenty million who will develop cancer at some future time." He advocates periodical examination for every person past forty years of age. He also advocates early diagnosis and treatment of the cancer and believes in making equipment and special skill available to every one, that is, surgery, radiation therapy, etc. He says that the hope of cancer research lies in the discovery of more effectual means of treatment, such as chemical radiation and other agencies which will attack a cancer cell more effectively.

These statements indicate that the present state of the cancer problem remains the same, and that is, to find the first cancer cell in the individual and eradicate it with the means we have, or the more effective means to be discovered of destroying this dreadful disease.

Summary

The author believes cancer to be a constitutional disease, a disease of metabolism in which one of the external causes of cancer, like a blow on the breast, etc., acting upon an individual sensitive to this disease, starts an anabolic hormone which in turn starts cell growth on a rampage and forms a cancer. This hormone starts the production, in some persons, of a catabolic hormone which counteracts the anabolic hormone and thus returns the metabolism of the patient to normal and protects the individual from a return of the disease. It also seems that in many cases, an operation for cancer will do the same, and almost certainly this catabolic protecting hormone will be found in the blood, secretions and excretions of the patient. This hormone, in the author's opinion, if discovered, isolated and administered to cancer patients, would cure them of the disease.

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IMPORTANCE OF CASE HISTORY IN ALLERGIC DISEASES

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New methods in medicine easily lead to neglect, or at least to reduced consideration of older ones, successful as they may have been. We experienced this in the early period of roentgen examination, when the external inspection of the patient, percussion, and auscultation were neglected, and the same was the case with a number of other methods. It holds true today as well, and in the broadest measure, for the appreciation of the history in all the fields of medicine, and particularly with respect to allergic diseases. Though it is sure that more than fifty percent of these often obstinately chronic diseases, as urticaria and allergic rhinitis may be explained and successfully treated by means of allergic tests and though we are firmly of the opinion that omission of the cutaneous tests would amount to malpractice, i.e. neglect of the patient, yet the particular importance of the history has to be stressed, for it often leads to an explanation even without allergic tests. This fact will be illustrated here by a number of cases.

The patients in question were sent by other physicians for the explicit purpose of exact clarification and testing. This accounts for the allergic skin tests having been applied. Only after unsuccessful testing, the history had to be taken up again, which admittedly might have been done earlier as well. The claim for taking the history more into consideration than before, and the pointing out of its great importance are, therefore, directed to the author himself as well as to anyone else.

Case Histories

Case I.—A woman aged forty, sent by her attending physician on account of a chronic rhinitis of six months' duration, with eruptions of urticaria and eczema, particularly on the upper and lower lip, on the face and on the nape. For two months there had been treatment by a nose specialist, i.e., local treatment, ointments, zinc ionization, histamine injections, injections of calcium with vitamin A/C and parathyroid, short wave treatment, etc. Improvements had been only of short duration. Thereupon only indifferent ointments were used, with ephedrine and boric acid, which were then changed by a second nose specialist in favour of salicylic acid and resorcin. At last Sulmefrin drops were used. When matters went quite wrong, i.e. when even the nights were disturbed by the rhinitis, a stay at the seaside brought temporary relief; at home relapse followed immediately. At last, even a change of place did not help as convincingly as before, and in the summer the condition became quite unbearable.

The family history of the patient did not add anything of interest for the clarification of the condition. On the other hand, her own history contained a number of remarkable events. For the past nineteen years the patient had suffered from mi-

graine which formerly appeared in a violent form every two to three months; in the last years only before or after menstruation, never during the menstruation. During her pregnancies, eighteen, thirteen and ten years ago respectively, the patient had been perfectly free from attacks. The migraine became milder and milder every year, without particular treatment, and now appeared only for a few hours, independent of the menstruation, and perfectly controllable by simple means (aspirin or pyramidon).

Eight years ago, the patient had suffered from an eczema "scattered over the whole body, with occasional blisters (?)", which lasted three months during the winter, never appearing again. Hormonal irregularities were then supposed (ovary?). On the basis of the patient's history, climatic factors, hormonal influences, and, considering her occupation in a grocery, the influence of flour, powder, etc., also had to be taken into account.

At the time of the first examination there was a moderate rhinitis with desquamation of the skin and a reddening around the nose and mouth, with rhagades at the nasal orifice, violent itching, moderate swelling of the upper and lower lips. All these phenomena disappeared within two days after all the medicaments used were omitted. The patient's blood contained eight percent eosinophiles. In the material secreted from the nose there were occasional eosinophiles; pH of secreted material=8.1.

Allergic testing with respect to the usual foodstuffs, climatic allergens, mould-fungi, pollen, bacterial allergens etc. were perfectly negative. On account of the itching eczema on the nose, the patient also consulted a skin specialist who prescribed an indifferent ointment (containing liquid acetic aluminol). After having used it only once in the evening, the patient's nose was running considerably in the morning and the surroundings of the nose were again very red and swollen. This, of course, roused the suspicion that a component of the new nose ointment had made the phenomena reappear. Comparison of former prescriptions of ointments with the present one showed that they had only one component in common, the ointment base, consisting of eucerin (lanolin) and vaseline. Immediate examination of these materials by means of the modified skin test showed a clear reaction to lanolin, not to vaseline. After one week without the use of any medicaments, all the symptoms disappeared. The rhinitis was cured with the help of small dosages of iodine. The patient has now been perfectly free from symptoms for three months.

If all details had carefully been taken into account, the diagnosis of lanolin (eucerin) — allergy might have been found without any particular examinations.

CASE II.—A woman aged fifty-four, had been repeatedly suffering from urticaria for the past four years, irrespective of the seasons. The menopause had begun two years ago, the disease had first been brought into connection with it. The urticaria eruptions usually lasted two to five days. They had been mostly very severe and were accompanied by strong swellings in the face and pharynx, once in the larynx (Quincke's angioneurotic edema). There were no intestinal symptoms. Treatment had been made with calcium injections, autohemotherapy and very severe diet; in consequence there was enormous loss of weight and anemia. The patient's blood contained three percent eosinophiles. Allergic testing—asked for by the attending physician—did not bring about any positive reaction. The patient had used medicaments very rarely; aspirin, palgin, luminal, were said to be tolerated; codeine, on the other hand, had brought about spasms in the stomach. The carefully preserved prescriptions and exact notes of the patient's diary showed clearly, that all eruptions of urticaria had appeared in connection with acute diseases. Exact comparison of the medicaments used led to the conclusion that they all had contained pyramidon and papaverin. As pyramidon was absolutely tolerated, only papaverin came into question. Codeine was also proved not to be the cause. A test with 0.02 papaverin, made by the suspicious and obstinate patient on her own initiative, led to a violent eruption of urticaria.

We now proceed to two cases of chronic rhinopathia, in which the course of the disease is especially interesting.

CASE III.—A woman aged twenty-nine had suffered from rhinopathia for about a year. It appeared particularly in the morning and was even worse in the evening before she fell asleep. In the daytime, the patient was almost perfectly free from symptoms. The attacks were accompanied by violent sneezing and watery secretion, and usually lasted for half an hour. She had received permanent local treatment by the nose specialist, besides calcium injections, autohemotherapy and short wave treatment. The patient was in the third month of pregnancy. She had been promised improvement for the time of her pregnancy, but as her condition even deteriorated, the attacks of sneezing becoming particularly violent, the gynecologist prescribed an "allergic examination". Two years ago she had had urticaria of short duration which had been induced by medicaments.

There was four percent eosinophiles in the blood, pH of nose secretion 7.9. Allergic testing was completely negative, except for a slight reaction to the feathers of her bed; but the cleaning of the feathers brought only a slight relief, though, according to the patient's statement, the attacks were less violent and shorter. When the patient slept in the flat of some relations, the rhinitis did not appear at all. So further factors had to be looked for, either in the patient's flat itself, or in its surroundings, the bedroom being most suspected, as the stay in the sitting room or in the kitchen during the day was not harmful at all. To further questions the patient replied that the rhinitis always started when her husband returned from work in the evening; but she at once added, that there were certainly no psychic factors to be made responsible and she was right. Some substance in the dress of the husband had to be thought of, caused perhaps by his occupation, as it often occurs with upholsterers, furriers (ani-

mal hair etc.). This, too, did not give any result at first. What did lead nearer to an explanation was a further statement of the patient, namely, that occasionally there were evenings free from rhinitis. Strangely enough, this used to happen on khamseen (sirocco) days, though she suffered from the khamseen (sirocco) which made her tired and irritated. Such an improvement on khamseen days may be found with fifteen to twenty percent of all the patients that suffer from chronic-allergic rhinopathia and asthma; therefore, the statement was believable. Full explanation in all details was brought about by a visit to the patient's lodgings. The khamseen had indeed a part in it and it was quite understandable why the patient felt relief on khamseen days. The following was found: Above the husband's bed, on the wall, there was a wooden shelf for keeping his pipes. The sharp smell of tobacco was immediately felt on entering the room. The beds were placed in such a way that when the wind came from the west, the tobacco smell was blown into the room from the side of the window; but when there was eastwind (khamseen), the draught from the door carried all smells out of the room through the window; thus the husband was really the cause of the rhinitis. The pipe-shelf was removed, the man did not smoke in the bedroom any more and changed all his dress when he came home. After a few days, the rhinitis ceased perfectly, not to appear again. This cause of rhinitis might also have been found through the history alone, as it was indeed possible later on in a similar case.

Case IV.—With this patient, a man aged forty-two, the cause of a rhinitis of eleven months' duration was found through the history alone. Again, the peculiarity of this heavy rhinitis with its most violent, and indeed dangerous, attacks of sneezing was its singular course. There were twenty-four to thirty-six hours of the most violent rhinitis, then an absolute intermission of two or three days. Almost with certainty the attacks appeared towards the middle of the week and at the weekend. Such limited attacks had, in some way or other, to be in connection with the habits of the patient. I remembered a former patient, who had eruptions of urticaria at about the same periods, regularly after having eaten a particular meat dish. (Such "week-end allergies", having the most different causes, will be described in another place.)

In this case it proved that the patient regularly called on a well-acquainted family twice a week, and that these visits had been taking place for about a year. Finally, the modified skin test proved a certain powder (Orris root), which was used there, to be the specific cause of the disease. After this powder had been eliminated—some difficulties had first to be overcome—the rhinitis disappeared.

Case V.—The parallelism of cases is sometimes astonishing. Not long ago, I was consulted by a physician who suffered from almost identical attacks of rhinitis of one to one and one half days' duration, with a few days complete intermission, attacks occurring almost always in the middle of the week, and with certainty appearing on Saturday afternoon and Sunday. Here, too, the course of the disease pointed to a particular time-table of my colleague. Testing with the usual food stuffs was undergone, but as should be made clear at once, not completely; for it became evident that the cause of the attacks of sneezing and the rhinitis was a particular jam, which was served to my colleague at a family's home where he used to pay visits twice a week, regularly at the weekend.

Case VI.—A man aged fifty, had suffered for five years from urticaria and chronic eczema on his face, with particularly strong secretion behind the ears and on both upper thighs, particularly in the inguinal folds (flexures of the groin). There was violent itching, particularly at night. The conditions were said to have appeared after the operation on a hernia five years ago. Furuncles also appeared from time to time, on different parts of the body, several times there was also suppuration of the axillar glands. Besides local treatment the patient had received roentgen irradiation, calcium injections, autohemotherapy and all kinds of vitamin medicaments. At last he underwent an arsenic cure which had bad results, leading to the patient's weight increasing up to 91 kg. One year ago, he had a diet free from albumin for three weeks, without any visible results. Several bathing treatments, in the sea, aggravated the patient's condition. The patient himself found that cognac was not harmful to him, but that liquers aggravated his condition, particularly the itching. However, he neither drank regularly, nor did he ever take great quantities of alcoholic drinks, and he did not smoke.

The examination showed a somewhat irritated eczema on both cheeks, and a reddening behind the right ear. The blood showed only three percent eosinophiles, the urine was free from pathological substances. The usual allergic testing did not lead to any reactions.

No examination of blood sugar having ever been made, it was carried out. Fasting blood sugar level was 105 mg. percent. An elevation test with 100g glucose showed an only slightly prolonged excretion with a maximum value of 180 mg. percent in the blood. What was more important; about one hour after the intake of glucose, the skin behind the patient's right ear began to itch violently and after a few more minutes there started in this area a secretion which was so strong that the skin was literally trickling. This condition lasted about two hours and slowly disappeared again in the course of one day. Thereupon the patient was prescribed a mild diabetic diet, i.e., the carbohydrates were considerably reduced. As a result, the eczematic places on the body healed after a few weeks.

In this case, too, the statements of the patient about itching of the skin, furunculosis, increase of weight, aggravation after the drinking of liquers, etc., might have drawn the attention to the patient's metabolism.

The art of drawing up a good history does not only consist in the right use of the patient's state-

ments, but also in asking the right questions, derived from a knowledge of the possible connections. We absolutely admit that the drawing up of a good history belongs to the most difficult, but at the same time the most revealing and besides most attractive parts of diagnosing.

Summary

Six cases of urticaria, eczema and/or allergic rhinitis show the extreme importance of the history for the diagnosis of allergic diseases.

HASSIDOFF HOUSE, STREET OF THE PROPHETS.

LEUCORRHEA

A Diagnostic Aid

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The adage, "familiarity breeds contempt" is certainly true of leucorrhea. Because of its everyday occurrence and commoness, this valuable sign is looked upon lightly by the profession and laity alike, and is merely casually treated with douches and powders. But in this discharge one holds the key which will open many a diagnostic problem, and often, here alone, is found the diagnostic clue. As stated by that great teacher, Dr. Howard Kelly, "It is a thread in gynecology which must be traced to its origin, and its cause ascertained and relieved."

We wish to indicate in this paper how a correct diagnosis of pelvic pathology may often be made by only a careful study of the nature of the vaginal discharge.

Properly viewed, leucorrhea is a pathological condition, for there should be no excessive vaginal discharge, any more than there should be an excessive amount of salivary secretion. The membranes of the mouth and vagina may be considered similarly. Normally, there is a slight moistening of both cavities which does not interfere with the normal activities or *status quo* of the individual. It is when these secretions become excessive or uncomfortable that we are concerned with a pathological state.

Leucorrhea, always a symptom and never a disease *per se,* is a cautious, early and often pathognomonic sign of underlying pathology. Though the vagina often appears inflamed and the seat of infection, it must be remembered, that though secondarily involved, it is never the origin of the excessive secretion as no glands are present in its mucosa. The discharge arises from the cervical glands, Bartholin's glands, as well as from the vaginal capillaries as there are no glands in the vagina.

Leucorrhea may be acute, chronic or recurrent, and, in nature, may be watery, mucoid, suppurative, creamy, frothy, yellowish, greenish or sanguineous, foul-smelling, clear or dark or any combination of the above. It may be or may not be irritating or odorous and varies considerably in quantity. All of these variations point to specific pathological conditions, thus aiding in a differential diagnosis. Accompanying the discharge may be urinary symptoms: frequency, dysuria, tenesmus, and/or genital symptoms: menorrhagia, metrorrhagia, backache or dysmenorrhea.

It is important that the speculum examination be made, that it precede the bimanual examination and that no lubricant be used on the instrument. A lubricant will destroy any organism present and will alter the character of the discharge thus nullifying its diagnostic value. In our clinic it has been found that gentleness will replace much lubrication. A smear from the urethra is obtained before introduction of the speculum, and one from the cervix after the speculum is introduced into the vagina. A variable amount of secretion will be present on the posterior blade of the speculum from which a suspension is made for examination of Trichomonas vaginalis. This will serve as a diagnostic aid.

Should the patient present herself with an acute discharge, associated with urinary symptoms, attention should be focused on a. gonorrhea, b. Trichomonas vaginalis, c. monilia infection. These three are the most common causes of acute vaginal discharge.

If the acute discharge be greenish in color and creamy in consistency, the vagina and cervix granular and red and there is urinary discomfort present, one may be very certain that he is dealing with a Neisserian infection. Of course, the microscope should be resorted to for the final diagnosis. In children, the examination should also include a culture for gonococcus. This procedure is also advisable in the chronic stage in the adult for though a smear may be negative the culture will show the presence of the specific coccus.

Should the discharge be creamy, frothy, and effervescent in character, accompanied by urinary symptoms and vaginal itching, and aggravated at the menstrual periods, the diagnosis of Trichomonas vaginalis may be made with safety. The cervix in the acute stage is often studded with punctate red spots. Here the diagnosis may be verified by the simple procedure of high power microscopic examination of a hang drop consisting of vaginal secretion suspended in warm saline solution. It takes but a minute to do this office procedure. The flagellated amebae will readily be seen swimming actively about in the suspension. Trichomonas infection is often present concurrently with gonorrheal or luetic infection, but rarely is it seen in the presence of lymphogranuloma venereum. There may be some significance to this absence of the Trichomonas in the presence of the Frei bacillus—a problem which warrants further investigation.

In monilia infection, the discharge is scant, but the patient complains of severe vaginal and perivulvar itching, the vaginal mucosa is lobster-red in hue, and upon its walls will be found many small, white

mucous patches which are easily removed by wiping with a cotton applicator and do not cause bleeding of the underlying mucosa at the time of removal. These latter two facts differentiate it from leucoplakia. The vulva shows signs of persistent and vigorous scratching. Microscopic examination of the discharge will reveal the presence of a monilia in threads and spores (Odium Albicans). These are the Saccharomyces. Monilia is often found in the presence of diabetes, and these patients should have a blood sugar determination as well as the routine urine examination.

Frequently, the patient will complain of profuse, purulent discharge, intermittent in nature, with little or no discharge in the interim and unaccompanied by other symptoms. In these cases we should suspect that we are dealing with a pyosalpinx which is emptying itself at intervals. Such cases do occur and it is worthy to bear this in mind. The examination of the patient should be repeated at a period when there is no discharge and at that time a distended infected tube may be palpated.

On occasions, the patient will present herself with the complaint that she has noted the presence of hair in the douche returns, even after the vulva has been shaven. These cases are strongly suggestive of dermoid cysts and physical examination, x rays and endocrine determinations should be performed to confirm the diagnosis.

A malodorous discharge, often noted by the patient herself, may be caused by the insertion of a foreign body into the vagina or cervix either as a means of perverted sexual satisfaction or for the prevention of conception. A foul-smelling discharge may also be due to retention of secundies, abscess of the endometrium in the aged, malignancy of the cervix or corpus uteri or to degeneration of a submucous leiomyoma or cervical polyp. All of these conditions have methods for definite diagnosis and nothing should be left undone to ascertain the correct etiological factor.

Case History

The following case is of sufficient interest to warrant its inclusion in this paper as it represents one of the less common causes of vaginal discharge.

J. H., a female, aged fifty-five, presented herself at the clinic with a chief complaint of increasing weakness, loss of weight, and a foul-smelling discharge, which, on occasions, had been blood-tinged. Menopause had been uneventful twelve years ago and the patient had no complaints of a gynecological nature until the present complaint which was of four weeks' duration.

Tentative diagnosis by the men on the staff was malignancy of the uterus. Examination by the senior author (D.L.) revealed senile atrophy of the vulva and vagina, an innocent appearing cervix, and a uterus that measured about two inches in length, one inch in width, and which was freely movable and with no masses palpable in the adnexa. It was his opinion that there was something in the entire makeup of the patient and the findings that did not chide with a diagnosis of malignancy in spite of the history.

The patient was hospitalized and preoperative treatment, directed toward improving her general condition, was instituted. When this was attained, a hysterectomy was performed and a small uterus with atrophied adnexa was removed. It is interesting to note the pathological report as submitted by Dr. A. S. Price.

"The specimen consists of a vermiform appendix 4 cm. in length and a uterus including both neck and cervix, measuring 8½ by 3½ cm., with both tubes and ovaries attached. The neck of the cervix shows a stenosis, and the uterine cavity is filled with mucus and green, purulent exudate. After removal of the exudate, the uterine cavity appears to be stained dark brown. There are several small tumor nodules in the wall, each approximately ½ cm. in diameter. The ovaries are small and sclerotic.

Microscopic examination of the endometrium shows a well marked chronic and purulent inflammatory reaction, but no evidence of any specific lesion other than cervical stenosis as a cause. The uterine wall presents considerable fibrosis and a chronic purulent endometritis, showing small fibromyomata. The tubes present no marked active inflammatory reaction. The ovaries show sclerosis and several small, simple retention cysts. The appendix shows a well marked chronic inflammatory reaction with some signs of recent activity.

The diagnosis: Obstructing cervical stenosis; fibrosis and fibromyomata uteri; sclerosis and simple retention cysts of ovary, bilateral; chronic appendicitis."

It must not be forgotten that a woman is an entity and not simply a gynecological case, and it is therefore important to bear in mind that general constitutional disorders may be the cause of a leucorrhea as readily as local genital pathology. Excessive discharge is often seen in women who work indoors most of the time, especially if long periods are spent on their feet. A general debilitation, improper nutrition, anemia, tuberculosis, syphilis, or cardiac disorders may all give rise to leucorrhea.

Following an operative procedure, either vaginally or low in the pelvis, the patient may complain of continued and persistent watery discharge. Careful search for a vesicovaginal fistula should be made, both by vaginal and cystoscopic examination. We have found it efficacious to insert a white cotton tampon in the vagina and then instill a dye into the bladder. If a vesicovaginal fistula is present, the dye will be found to have stained the vaginal tampon. A persistent watery discharge may be the first and early sign of a squamous cell carcinoma of the cervix.

A purulent vaginal discharge may be associated with painful swelling of one or the other of the labia majora. Speculum examination may reveal that the cervix is clean and all discharges are due to the secretion of an infected Bartholin's gland. Contrary to general opinion, only forty to sixty percent of acute Bartholinitis is Neisserian in nature, the remainder being due to Streptococcus, Staphylococcus, colon bacillus and often Trichomonas infection. Smears and hang drop inspection will readily reveal the source of the infection.

Treatment

In the treatment of leucorrhea it is important that a systematic search be made for the cause, and that treatment be directed toward its elimination. General care as well as local attention must be part of the regimen if a cure is to be obtained.

Sulfa drugs and/or penicillin are used to advantage in the treatment of acute gonorrhea. When the former drug is used, frequent blood determinations should be obtained and any evidence of a granulocytosis necessitates immediate discontinuance of the drug. Bed rest, bland diet, active elimination and the avoidance of douching should be part of the active treatment. Chronic gonorrhea may be treated by various methods: sulfa drugs, penicillin, hot douches, Elliott therapy, etc. In the prepubescent patient, infected with the gonococcus organism, excellent results have been obtained by the use of estrogenic hormones. Involvement of Skene's ducts or glands should be treated by cauterization and destruction of the gland. Suppurative Bartholinitis should be treated as any surgical abscess and drained and the entire gland should be excised only after the acute stage has subsided.

Trichomonas vaginalis is an exceptionally stubborn infection, and treatment must be continued for several months until negative results for detection of the organism are obtained after three successive menstrual periods. Treatment should be continued during the menstrual flow, for it is at this time that the Trichomonads flourish. Legion are the drugs and methods of treatment attesting to the ineffectiveness of any one particular therapy. Various arsenical vaginal suppositories, such as Stovarserol or Devagan and quinine preparations as Floraquin or Termine have been advocated. We have obtained our best results with the use of capsules containing cultures of lactic-acid bacillus-Bu-Tabs. Douches of all sorts have been prescribed, tincture of iodine, picric acid, hypertonic saline, acetic acid, lactic acid, borax, etc. It is noteworthy that often after continuous use a drug becomes less and less effective, and better results are obtained if another preparation is employed. In addition to the local vaginal treatment we deem it wise to prescribe a gastrointestinal and a urinary antiseptic although many investigators disclaim any improvement with the use of these drugs.

Monilia infection responds very satisfactorily to the use of two to four percent gentian violet. The entire cervix, vagina, and vulva should be well painted and this repeated at three day intervals for several treatments. Gentian violet is the specific drug for this infection and most satisfactory results are obtained by its use.

Discussion of methods of treatment is not the purpose of this paper and the previous three therapeutic methods have been outlined briefly because of the frequency of the diseases.

We wish to stress the importance of determining the cause of the leucorrhea, and the elimination and treatment of that factor.

Summary

1. Various causes of leucorrhea have been outlined.

2. The characteristic appearance of the discharges with their diagnostic importance has been discussed.

562 WEST END AVENUE

CANCER EDUCATION

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It is common knowledge that the credulity of the ignorant is limitless. It is sometimes equally true of some persons who have more than a slight addiction to culture. This is especially manifest to physicians and surgeons who are interviewed daily by all manner of persons — persons educated, semi-educated, ignorant and starkly ignorant. The purport of the present article is largely regarding the need of educating many educated persons, to arouse an awareness on their part of the various quackeries practiced by conscienceless rogues in the treatment of mankind's Public Enemy No. 1— Cancer. The indictment which follows is of transcendant importance particularly at a time when cancer societies and cancer foundations attempt to enlighten the public concerning the earliest possible recognition of the disease and the appropriate treatment.

The following case history will, it is hoped, at least point a moral, if not the lurid adornment of a tale.

Case History

Miss H. A., forty-five years of age, was a schoolteacher, and not surprisingly, a spinster. She had had the usual children's ailments. Her subsequent history, from the medical viewpoint, was uneventful, largely owing, as she averred, to her twice daily use of the miracle of miracles, a nationally advertised laxative. Her first menstruation had occurred when she was about seventeen years of age and her last, December 1944, at which time she became aware of a small, hard lump in her left axilla. She had immediately consulted her family physician who explained that such nodes were not unusual during menopause but should be closely watched. He proceeded to treat the involved area twice weekly with infrared applications and finally pronounced her condition as due to "vicarious menopause", stating that "milk which could have been produced in her mammary gland before menopause would to all intents and purposes be changed to a watery fluid, which later could be removed by aspiration".

In February, 1945 the patient became aware of a sense of weight in the left breast. At the beginning of March she menstruated slightly for two days during which time the axillary node appeared to decrease in size.

By March 25th, 1945 the patient was still teaching at school and not particularly indisposed. However, she noticed for the first time, a lump in the upper, outer quadrant of her left breast. The following day she consulted her family physician again who informed her that it was the "final symptom of menopause and of little consequence". He continued the use of infrared rays twice weekly.

In the following weeks the left breast hardened and revealed signs of inflammation and of fluid collection. She was informed that these manifestations were also menopausal.

At the beginning of May the left breast became strikingly indurated and purplish-blue. There was no discharge from the nipple. The left arm became swollen and painful. The patient then decided to consult a specialist but first called on a "professional" numerologist who, after considerable mumbo jumbo, advised her to see a "detoxicating specialist" in the person of a registered nurse (presumably a lady friend) who was a genius in the art of administering "high colonics". This person recommended a great number of these treatments "to remove the poison from the system". To reach this objective it was necessary to avoid proteins and to follow a strict diet consisting of fruit juices, raw vegetable juices and steamed vegetables. Barrels of oranges, grapefruit, lemons and fresh vegetables were brought to the house daily. Between the middle of May and the beginning of September the patient lost thirty-five pounds.

The Haye diet expert was also a spiritualist. She introduced the patient to that esoteric cult. After a few weeks of the detoxicating, protein free dietary, the left arm swelling subsided. The patient was thereupon shown at a seance as a living testimonial to the spiritualistic cure of cancer of the breast. (Incidently, the spirits used a "red blanket", a traditional Indian healing symbol).

Oddly enough, despite the protein free diet and the "cure" the left breast became more and more swollen and indurated until the beginning of June when the schoolteacher—a logician, finally became alarmed. She thereupon consulted an astrologer. This expert on celestial matters gave it as his profound opinion that the patient was to avoid all varieties of treatment, especially surgery, radium or deep roentgen ray therapy, before September 2nd, 1945 at which time the stars would be in propitious conjunction.

The numerologist, on being consulted, concurred in this opinion, adding that the month of September would be the only month favorable for a final medical opinion.

The patient kept to her strict protein free diet, with somewhat shaken confidence in the cancer curative spirits. In the interim the breast continued to swell and became discolored. The patient suffered excruciating pain, and had to be propped up in bed.

At this time, the attending Haye disciple returned from a vacation which was taken in effort to reduce her own weight of 250 pounds. The patient was now examined and informed that the detoxicating regimen was thoroughly carried out, and that the disease was now completely isolated. The dietist had a flair for poetic expression and informed the patient that the involved breast, having "withered like an autumnal leaf", should now be removed by a surgeon.

I was first consulted on September 4th, 1945. The accompanying illustration reveals the full extent of the inoperable adenocarcinoma and its widespread involvement of circumjacent areas, noticeable lymph node involvement of both axillae, elbow and inguinal regions. There was also subcutaneous lymph node involvement over the entire abdomen

and in the infra and supraclavicular areas. There was retraction of the left axillia preventing the patient from raising her left arm. A small tumor mass was palpable in the right breast with typical orange peel sign on the covering skin. Roentgenographic studies revealed extensive metastases in the pelvis and lower spine.

The gravity of her condition was explained to the patient and she was informed that the optimal time for surgical relief had long gone by but she maintained an unshakable confidence in her protecting spirits, in the beneficent stars and above all, in the guidance of the numerologist. The patient finally consented to be hospitalized but not before she had consulted the numerologist as to the most proptiously numbered room.

After the patient was returned to the numerologically approved bedroom, the diet expert provided "detoxicating postoperative fruit juices and super special detoxicating salads." The patient died six weeks later of cachexia and cerebral metastasis.

Summary

No doubt physicians and surgeons throughout the land can relate similar instances of persons of presumed education and above the average in intelligance who, cancer stricken, are guided in their search for a cure by one or more of a thousand and one cultists and by the utterly crack-brained.

Great propogandistic attempts are made to arouse the ignorant public to the dangers of late recognition of cancer. It seems, in view of the foregoing narrative, that a similar campaign is urgent to educate the educated.

27 EAST SIXTY-SECOND STREET

THE GIFT OF SPEECH AND THE BRAIN

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One of the characteristics that distinguishes man from the other living creatures is the ability to speak, to express his thoughts and emotions vocally, to give voice to his feelings. The ability to talk, to converse meaningly, has developed coincidentally with the ability to think. One has to form his thoughts in his mind before giving voice to them.

It is a curious thing about speech. The larynx and vocal cords are used primarily for purposes of speech, but they were not evolved primarily for this purpose. A much simpler organ would have sufficed for the bare vocal needs of man. Thus it is only by the exercise of his intelligence that man is able to make use of his speech organs.

During his evolution, his intellect was in advance of his command of speech but it enabled him to adopt the organs already evolved for other purposes. The ability to converse with his fellow men and to exchange ideas gave in return an increased impetus to the development of his intellectual powers. Although early man was provided with all the necessary requirements for speech as modern man uses it, his intelligence was of too low an order to allow his taking much advantage of his physical possibilities. It is a most fascinating thought that when man learned to speak he also learned to think in a more orderly fashion. The development of mentation and of vocalization was a late but very important factor in the development of the human brain.

The nature of the structure and function of the language mechanism in the human brain has been debated for the last seventy-five years. The earliest view was that certain functions were localized in the gray matter of the brain and more specifically in definite areas known as centers. In 1861 when anatomists were first beginning to assign various functions to different parts of the brain, Dr. Broca described the posterior portion of the left lower frontal gyrus as the center of speech in the brain. Soon after Dr. Hughlings Jackson began a series of case studies on speech and speech defects. Dr. Jackson was opposed to the idea of centers. He stressed the importance of appreciating the psychic concomitants of nervous activity and intergrations in speech function and he refused to localize speech in any particular part of the brain.

The development of the concept of speech centers continued however, and other anatomists advanced the idea that the upper temporal gyrus was a hearing-speech center and that the occipital or back lobe of the brain was a visual-speech center. The presence of several other speech centers has been postulated. Involvement of any or all of these centers in a diseased condition has been thought to result in deficiencies of the language function.

In the last twenty years certain brain anatomists have attempted to break away from the theory of the localization of functions in the various parts of the gray matter or cortex of the brain. It is their belief that the cortex does not function in centers or parts, but that it functions as a whole.

There is no universal agreement among brain students as to what parts of the brain have to do with speech. Thus, according to Dr. Henry Head, the function of language involves nervous elements that are found in widely separated parts of the nervous system. The areas in the cortex of the brain which are believed to be concerned with speech are only one part of a rather complicated system. As a concomitant of physiological activation of these brain areas, there is a psychological symbolization of ideas and feelings in terms of objects and situations in the environment. These complex patterns which are used in language are funneled toward the out-going sides of the nervous mechanism. The expressions of these patterns result in vocalizing, writing, gesturing, etc, on the basis of the previously conditioned symbolizations.

Talking or vocalization is a function that involves the activity of certain nervous elements. The various parts of the adjusting mechanism which may be focused on these nervous elements have very complicated relationships. In the following paragraph an attempt will be made to outline them.

The part of the adjuster in the brain that is nearest to the nervous elements used for vocalization are nervous tracts and fibers found in the part of the brain known as the pyramid. The cell bodies of these nervous tissues lie, for the most part, if not entirely, in the frontal lobes of the brain. Dr. Penfield found that by electrical stimulation vocalization could be elicited from areas in the precentral gyrus behind the upper posterior end of the inferior frontal gyrus.

Studies on the significance of the frontal lobe by Dr. Brickner have led him to believe that the essential function of the frontal part of the brain is a process of elaborate association or synthesis into complex structures of the simpler engrammic products which are associated in the back portion of the

brain. In the case of speaking it is possible that these engrammic products are elaborated in the temporal, occipital and parietal lobes.

There is knowledge of the sound of words, the sight of words and the tactile and muscle-tendon "feel" of words. All these elements are required in what appears to be the simple act of talking. It appears that these components are put together in the gray matter of the parietal lobe of the brain and then some of the patterns are carried to the front part of the brain for more elaborate building up. It is in the frontal lobe that speech is built up to its characteristic human expression. The average person speaks with facial expressions, gestures and poses, and these are elaborated in the front part of the brain.

There is still more to the center of speech in the brain. There are two temporal lobes in the brain, and it is believed that the majority of individuals have a dominant and non-dominant temporal lobe. The dominant lobe is the one opposite to the hand that is being constantly used. In right-handed persons the dominant lobe is on the left side of the brain. This is a factor of great importance in the matter of speech. Dr. Chesher was the first to suggest that while the language area of the brain is at first equally divided between the two lobes, it shifts in early childhood to either the right or left hemispheres of the brain. In right-handed persons the left side of the brain is the dominant one in speech production; in left-handed persons, it is the right lobe of the brain.

Dr. Dwight M. Palmer made a thorough study of a case of a man who suffered an injury to both temporal lobes through the blocking off of blood vessels supplying vital areas. This in time brought about softening in the lobes with a destruction of their function. This also resulted in interesting changes in the man's ability to speak, that is, to speak intelligently. He could make sounds, but they were a meaningless jumble of sounds. He had also lost the ability to recognize the sound of his own voice.

Thus language-making and brain function are very closely allied. When only one area of the brain, that is, the non-dominant temporal lobe, suffers injury there is a reduction in the ability to speak. However there remains the dominant temporal lobe and he is still able to speak. When the injury to the brain is extensive, when it involves both areas of the speech mechanism, that is, the two temporal lobes, it leads to a breakup of language patterns and this in turn deprives the individual of the mechanism which is required to bring together the word symbols that form the abstract ideas which are basic to thinking. Thus when this injury occurs there is first a destruction of the ability to think symbollically and then the ability to think vocally. Speaking is thinking with one's vocal machinery. It is not merely the ability to make sounds; it is the ability to make ideas in sounds.

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A PLACENTA ACRETA

H. H. SKINNER, M.D.
Yakima, Washington

A placenta acreta is a serious condition rarely met in the parturient woman. It always places the patient in the unenviable position of a mutilating and desexing operation or else the glaring prospect of death from hemorrhage. Authorities almost unanimously agree that there are two recognized lines of procedure: 1. When this condition occurs the placenta should be removed by force, tearing it from the endometrium, piece by piece, even in the face of continuing a startling hemorrhage, the latter to be met by transfusions in order to save life. 2. After establishment of the diagnosis, the patient's abdomen should be opened and the uterus with its adherent placenta removed; a determined effort to save life from an inevitable severe hemorrhage.

During the American Congress of Obstetrics and Gynecology held in St. Louis in April, 1942, two or three obstetricians reported cases of placenta acreta which they had encountered and treated conservatively. That is, they did not do a hysterectomy nor did they forcibly remove the placenta, but rather waited until the placenta itself separated during the natural processes of involution. One obstetrician mentioned the fact that his delaying program was so successful that the patient recovered; she subsequently delivered children normally.

The following is a case of placenta acreta treated conservatively:

Mrs. S., an Indian girl, aged sixteen, was confined by her mother at the family "mansion" about 3:30 a.m. on the morning of May 31, 1945. As the afterbirth, or placenta, did not arrive in due time, the "mother obstetrician" called in a local physician. What attempts were made up to that time to deliver the placenta is unknown, nor the methods employed by the referring physician.

She was first seen about fifteen or sixteen hours after her delivery. General examination was negative; blood pressure, temperature, etc., normal. Her pulse was rather rapid. Pudena examination revealed a perineal tear almost to the sphincter and a medium-sized cord dangling some twelve to sixteen inches from the vagina. A little tension was made and the cord severed as close to the body as possible. There was practically no blood coming from the vagina.

She was taken to the operating room and anesthetized. After very strict aseptic preparation, the vagina was filled with tincture of green soap;

the cord made taut and with a hand in the vagina the fingers followed the cord into the cervix. This was found to be open enough to admit the hand, but as the examining fingers discovered the placenta just inside the inner os very little further entrance was made. The author recollects that sixteen hours had passed since delivery and how many examinations had been made was an indeterminate factor. Introduction of the hand and fingers was only sufficient to outline most of the placenta and to determine definitely that there was no separating line of demarcation to be descried between the placenta and the uterine wall. There was no resultant bleeding.

A little tension was made on the cord which was attached very near the margin and just above the inner os. The placenta tore a little at this point and bleeding ensued. No separation occurred and no attempt was made to make a point of division between the placenta and the uterus. The diagnosis was placenta acreta. By speculum, the cervix was exposed and the cord severed about one inch or so from the placenta. The vagina was filled with tincture of green soap and the patient returned to bed.

She bled considerably the next twenty-four hours, apparently from the rent in the placenta caused by the traction on the cord. Blood donors were very difficult to find. She was a group two and Rh positive. Her progress was very stormy for the next several days.

On the tenth day she passed what was taken to be half the placenta, but it was curled up sausage-like about 5 by 20 cm, cylindrical in shape.

On the fifteenth day she passed another piece about the same size which was accepted as the remaining portion of the placenta. The next day a vaginal examination revealed the fundus to be anterior, the size normal commensurate with the period of involution. The cervix was closed and there was only a small amount of serosanguineous discharge. In the meantime, she had been given three transfusions. Her hemoglobin dropped to 31 percent at one time, but her red blood count was rising when the family insisted on taking her home.

Diagnosis

Placenta previa was not to be considered. 1. No history of bleeding before, during, or after delivery. 2. The vagina was almost free of blood when first seen. That may well have come from the patient's perineal tear. 3. On vaginal examination, the lower edges of the placenta, although just above the inner os, had no point of detachment. If so, there would have been blood in the vagina. 4. No line of demarcation or separation of the placenta from the uterus was to be discovered. This was sixteen hours after delivery. In a case of placenta previa, the placenta always follows a baby's delivery either at once or very shortly afterwards with a drenching hemorrhage accompanied by clots. 5. Histological examination to determine the absence of a basal membrane was impossible. A section of placenta and endometrium at the time of vaginal examination would have precipitated certain hemorrhage. The only other method would be by hysterectomy, which was not done.

Definite instance of placenta acreta treated conservatively.

YAKIMA MEDICAL AND SURGICAL CLINIC

Amino Acids

Dr. William C. Rose, division of biochemistry, Noyes Laboratory of Chemistry, University of Illinois, reported at a recent meeting of the American Chemical Society that tests on human volunteers show that eight of the amino acids—the "bricks" in the protein molecule—are essential in man's diet. The experiments showed that the thirteen remaining known amino acids in the protein molecule are not required for maintaining nitrogen balance in man and evidently can be manufactured by the body. The work is being continued to determine the minimum amount of the eight amino acid "bricks" needed in the diet.

During the past two years, experiments in the Noyes Laboratory have been directed toward determining the amino acid requirements of the human species, he reported. Healthy young men served as the experimental subjects, and the diets were composed of mixtures of purified amino acids, starch sucrose, centrifugated butter, inorganic salts, and vitamins. The amino acid mixtures furnished seven to ten grams of nitrogen daily. Following the ingestion of such diets, the subjects came into nitrogen equilibrium within a few days. At the expiration of the fore period in each subject, single amino acids were omitted from the food, and the effects upon nitrogen balance were noted.

The results demonstrated that valine, methionine, threonine, leucine, isoleucine, phyenylalanine, tryptophane and lysine are necessary constituents of the diet of man. The exclusion of each from the food induced a pronounced negative nitrogen balance. After the experimental period, the missing amino acid was returned to the diet and was followed promptly by the reestablishment of nitrogen equilibrium. The remaining known amino acids in the protein molecule — glycine, alanine, serine, cystine, norleucine, aspartic acid, glutamic acid, tyrosine, proline, hydroxyproline, arginine, citrulline and histidine, are not required for the maintenance of nitrogen equilibrium in man. Evidently they can be synthesized by the organism from materials ordinarily present in the tissues.

Dr. Rose concluded that "Experiments are now under way to establish the minimum amount of each essential amino acid which is necessary in order to maintain nitrogen equilibrium".

Editorials

Psychosomatic Illnesses

It may seem a bit peculiar to direct the attention of physicians to books on management problems, but they number many workers among their patients and many cases of illness are attributed to work conditions. Moreover all illness has its psychosomatic aspects, and so do all jobs have theirs. Take first the matter of eyestrain.

In its August 11, 1945 issue the *Medical Officer* mentioned what it called the "ophthalmic myth", in the course of a discussion of an article by John Foster in the July 14, 1945 *British Medical Journal*. This myth was the belief that correct glasses preserve and incorrect glasses damage the sight, that the majority of headaches have an ocular cause, and that work under artificial light strains the eyes. Actually scientific evidence drawn from controlled experimentation is lacking to prove these myths.

A more extended discussion of this matter is David G. Cogan's "Popular Misconceptions Pertaining to Ophthalmology" in the *New England Journal of Medicine*, March 13, 1941. This is a spirited adverse criticism of the doctrine that we need more light to protect our eyes from strain, fostered especially by M. Luckiesch, F. K. Moss, and A. J. Pacini. None of the experiments upon which this doctrine is based are immune to controversy. Naturally the light companies like it!

Much is said of permanent injury to the eyes, a tragic toll, derived from poor illumination, but there is no generally accepted evidence that dim light injures the eyes any more than there is that slight odors injure the nose or faint sounds the ears. Eye fatigue is usually fatigue of attention and is very decidedly psychosomatic in character.

The patients' or workers' complaint is generally a headache and their assumption often is that poor illumination causes it. Certainly evidence is lacking that working in poor illumination causes nearsightedness or that working closely on glossy paper in poor illumination does the same. The average person can almost accurately judge the amount of illumination he uses with comfort and, if poor illumination injured the eyes deeply, Abraham Lincoln should have been blind from all the reading he did by the firelight.

Eyestrain is a complex of fatigue and psychological factors—headache, a sandy feeling or aching of the eyes, pulling sensations, unusual drowsiness, or bloodshot eyes. Any visual task requiring concentration can tire the eyes and efforts made to continue or overcome this handicap are considerable. Eyestrain tends rather to cause psychological disturbances than organic eye injuries. Mere objective examination will not evaluate eyestrain either. Says Dr. Cogan: "Granted the validity of this concept, it is apparent that although eyestrain may cause various psychological disturbances, it does not result in any organic disease of the eyes. Nor would one expect that organic ocular disease from whatever cause would be made worse by eyestrain any more than by other psychic annoyances. It is also apparent that the treatment of eyestrain is symptomatic only. Glasses are analagous to crutches, and important as their service is in this capacity, they have no further therapeutic value so far as the eyes are concerned. The common allegation that "wrong glasses" have ruined one's eyes is entirely without foundation. This concept of eyestrain also suggests the error in ascribing a medical implication to many of the maxims that have arisen from purely intuitive considerations. The reason that one should write with the light over one's left shoulder is that the arrangement makes the shadows less bothersome. The opposite holds for left-handed persons. As for reading, it makes no difference over which shoulder the light comes, nor does any harm, other than perhaps discomfort, come from reading in bed. The same applies to reading on the train. Many of the misconceptions that have arisen as presumed health or sight precautions are clarified by an understanding of the psychological nature of eyestrain."

Turn now to the ears. S. Smith Stevens, Harvard professor of psychology, and director of its Psycho-Acoustic Laboratory, had many interesting things to say on "The Science of Noise", in the *Atlantic Monthly* July 1946. Physicians would find it beneficial to read the article. For instance we have all heard that noise can not only injure but also kill us, yet great efforts made during the war to find a lethal racket with which to subdue our enemies ended in abject failure.

Men can become unhinged or be driven to suicide by sounds to which they attach ominous meanings, but that is quite another thing. Insanity, nervousness, nausea, inefficiency, confusion, and fatigue do not occur because of sound *per se*. A noise intensity of 115 decibels for eight hours a day has no discernible effect on a subject's proficiency nor does it permanently impair hearing. Tremendous rackets can burst eardrums, and a distressingly painful sound of 140 decibels can make the ears ring and even temporarily deafen for certain frequencies,

but no permanent damage occurs and permanent recovery for all frequencies is assured. The ears regain their normal sensitivity after a few hours' exposure to terrific rackets under test conditions. If a patient complains of being driven mad by poor illumination or loud sounds, or if illness is attributed to these causes alone, investigate further. Which brings us to two books on management from which physicians could gain much helpful background information. The first of these, *Management and the Worker,* published by Harvard University Press, gives an account of a research program conducted by and at the Hawthorne Works of the Western Electric Company, by F. J. Roethlisberger and Wm. J. Dickson, with the assistance of Harold A. Wright. The other is by Elton Mayo, professor of industrial research at Harvard, and is entitled *Social Problems of an Industrial Civilization.* Initial studies were made of the conditions under which people work on the assumption that their physical surroundings—illumination, ventilation, temperature, humidity, frequency or existence of rest periods—would be the most potent factors in affecting output. This was found to be untrue.

Take illumination as an example. It was found that workers would express satisfaction and increase output as illumination was increased, but they would do precisely the same thing if a mock change were made in the illumination which had no effect upon its intensity at all, provided they were assured the change was beneficial. At the other end of the scale workers would complain of poorer illumination and decrease output when a mere mock change was made, the bulbs used for replacement having the same wattage as those removed. Ultimately it was discovered that no worker complaint at all could be accepted at its face value, and this is true of doctors' patients as well, who are often the same people. A complaint is rarely if ever a statement of fact. It is a complex component of fact and fancy. The social status of the individual at home or in his work group and his psychological conditions has much more weight in his complaint that a tool is dull than the condition of the tool itself, which may be excellent. The same thing is true regarding his complaints about his colon or his heart.

A constant effort was made in these experiments to effectively control psychological factors that they might not weigh too heavily when the attempt was being made to judge the effects of physical surroundings and plant conditions on worker efficiency and output, but these factors remained the major variables. "In comparison to them, the physiological effects of changes in working conditions were minor." Behavior does not respond directly to physical conditions. Alterations are produced in worker output by changes in physical surroundings, but the response is never simple. The workers' attitudes towards what is going on are the prime factor. Their likes and dislikes and attitudes govern what they report to interviewers, supervisors, or physicians. Their reports and complaints are neither true nor false *per se,* but instead usually refer to some significant personal or social situation requiring exploration. A stomach is "off," a tool is dull, a machine is out of order, the ventilation is bad, the room is too hot (at 68°F.)—these complaints usually signify a situation wherein the physical condition is a minor factor. It is all in what the individual thinks the condition is or means. A broken leg is a very different thing to a child, a wealthy young adult, a poor workman, or a physician who can reflect on the possibility of a fatal embolism therefrom.

Social skills have not progressed as have technical skills. Few have mastered the art of getting along with people, of finding and maintaining a place in a group, of forming a part of a spontaneous cooperative effort without which all work comes to naught. The human race does not exist as an unorganized rabble of individuals; it always groups itself. Interviews by good listeners who let people talk themselves out rid them of complex, useless, and explosive emotional complications. Assured membership and position in a group is a basic human need and can alone bring a feeling of certainty and security. You are strongly advised to read these books.

Is Intelligence Declining?

In the Galton Lecture to the Eugenic Society, given recently by Professor Godfrey Thomson and published in the *English Eugenic Review* (pp. 38-39, 1946), the question as to whether intelligence is being breeded out in Britain is discussed from various aspects. Of late years in England, there has been a new departure of prolonging the education of children at school possessing brains above the average, who have used them to excel at their lessons when at the university. Professor Thomson confesses that he is fearful of the end results of this policy, leading invariably to the delay of marriage and procreation. He goes so far as to maintain that the British educational system acts as a sieve to sift out the more intelligent and possibly to destroy their posterity. It is, he argues, a selection which ensures that their like shall not endure. It is well known that in America, as in

Britain and in other countries to a lesser extent perhaps, intellectuals tend to marry late and if they have any children, quite a limited number. The speaker stated that the general concensus of psychological opinion suggested that fifty to eighty percent of one's intellectual capacity is inherited; considerably less than one-half the difference between intelligence test results on environmental or educational grounds. Moreover, the late marriage of intellectuals, their diminished fertility and the pressure of economic circumstances limit the families of the university trained section of the population who think, as a rule, that they should have only as many children as they can afford to have educated up to their own standard. Therefore, the level of intelligence is lower in each succeeding generation because the more intelligent or more "brainy" and highly educated have failed to contribute their proper quota to it. It seems that it has been discovered that there is a negative correspondence between an intelligence quotient and the size of a family; small family intelligence is above the average; intelligence in large families is below the average. Fraser Roberts and his colleagues made similar studies of intelligence to those of Professor Thomson among an entire age group of the children of Bath with like results. Professor Thomson makes a pertinent point that it is upon the designers and inventors in this machine age rather than upon the technicians that we depend for progress. Although he does not say, no doubt he means constructive progress not destruction which is the reverse of progress, indeed carried to excess will end civilization. Also it may be pointed out that genius or high talent is not the monopoly of literary men, but may and does dwell in the minds of mechanicians and in those persons of any grade of society. Even acute and sound common sense is as useful in its way as genius, more useful in certain circumstances. The latter may discover wonderful things by intuition the true manifestation of genius, but shrewd common sense, allied with the capacity for hard work which the intuitive geniuses often lack, is generally required to make practical some of the marvelous visions of genius. At the present time it is construction which is needed.

Typhoid Fever

At one time and not long ago, typhoid fever even in civilized countries, was occasionally a serious menace. In wars it was often a scourge of armies. In the Boer War the disease took greater toll than the weapons of war. In civilized lands at the present time it occurs endemically now and then but not in epidemic form. This no doubt is largely due to a more accurate knowledge of the disease and its modes of spread and to better domestic hygiene. Propagation from the human source may be direct or indirect. Of indirect causes aerial infection, apart from the effect of wind-borne dust and of flies, is very doubtful. Drinking water contaminated by sewage is the most frequent cause of widespread outbreaks. Milk and socalled ice cream may act as vehicles of infection. Uncooked green vegetables and watercress may also spread the disease. Most shellfish, including oysters, may be dangerous. It goes without saying that enemas, bedpans and so on, soiled by typhoid excreta, of course act as infective agents. Laboratory workers have been infected by their cultures. Direct contagion may bring about localized outbreaks but perhaps the chief danger arises from mild and unrecognized cases and the carriers are dangerous. It must be borne in mind that a small proportion of convalescents from typhoid, maybe five percent, continue to pass bacilli in the stools for years. Urinary carriers of typhoid germs are less common by far than intestinal carriers. Carriers are manifestly especially dangerous if engaged in handling food or milk. It is now believed that endemic typhoid is largely due to the influence of human carriers. Personal and domestic hygiene must be thorough in cases at home and in any place in which infected cases are present.

Epidemic typhoid has waned in civilized lands but in these disturbed times when traffic in human beings goes on unceasingly, many of whom journey from war wrecked countries where dirt abounds, good food is scarce and bodies ill nourished, it would be foolish indeed for governments not to insist that every possible precaution be taken.

Malaria Research Grant

Dr. Reginald D. Manwell of the zoology department, Syracuse University, has been awarded a grant of $2,000 to finance in part research on the cultivation of avian malaria parasites. Ultimate aim of this research is to improve the techniques of cultivation recently developed for the malaria parasites, and use of these processes in testing of the action of antimalarial drugs. As a result of wartime research at Harvard University and London, England, methods of cultivating the germs of malaria recently were perfected, and a great deal remains to be learned about the techniques and the parasites themselves.

News Items

Chicago Academy of Sciences.—The following officers were elected at the eighty-ninth annual meeting of the Chicago Academy of Sciences: Dr. Nathan Smith Davis, president; Dr. James P. Simonds, first vice-president; Dr. Kenneth A. Reid, second vice-president; Dr. Nat T. Burfeind, secretary; Dr. Henry B. Babson, trustee for five years and Drs. Alfred Emerson and C. L. Turner, scientific governors for three years.

American Academy of Allergy.—The annual convention of the American Academy of Allergy will be held at the Hotel Pennsylvania, New York, November 25-27 inclusive. All physicians interested in allergic problems are invited to attend the sessions as guests of the Academy without payment of registration fee. The program has been arranged to cover a wide variety of conditions where allergic factors may be important. Papers will be presented dealing with the latest methods of diagnosis and treatment as well as the results of investigation and research. Advance copies of the program may be obtained by writing to the chairman on arrangements, Dr. Horace S. Baldwin, 136 East 64th Street, New York.

Hypertension Research Grant.—According to *Science,* September 1946, Washington University School of Medicine, St. Louis, has received a grant of $270,000 from the United States Public Health Service for support of research on hypertension. The grant is effective over a five year period, seventy thousand to be spent the first year and fifty thousand each year thereafter. The work will be under the direction of Harry Schroeder, who has been active in the study of hypertension, having described an enzyme in the kidney which affects blood pressure. Palmer Futcher, recently appointed assistant professor in charge of the metabolism division of the department of medicine, will take an active part in the hypertension research while also engaged in a study of electrolyte metabolism in cardiac failure under a grant from the U. S. Navy.

Fellowships Awarded in Physical Therapy.—Ten teaching fellowships in physical therapy have been awarded by the National Foundation for Infantile Paralysis to schools approved by the American Medical Association in Columbia, New York, Northwestern, and Stanford universities as part of a program to train one thousand physical therapists for the treatment of infantile paralysis and the rehabilitation of war and industrial casualties. Applicants for one- and two-year fellowships must be members of an approved physical therapy professional group with three years' clinical practice and be candidates for a B.A., B.S., or advanced degree, with plans to teach after completion of their course.

New York Infirmary.—The New York Infirmary, only hospital in New York City staffed entirely by women and one of three such in the United States, has started a drive for five million dollars for construction of a new building to provide facilities for training women physicians.

Certification for Practice.—The Indiana State Medical Association Committee on Certification of the General Practice of Medicine has organized a founders group to conduct examinations and issue certificates. The step was taken to elevate the standards of general practice, to improve educational opportunities of the general practitioner, and to attract the ablest of the younger men to the general practice of medicine.

Graduate Course in Psychiatry.—The Long Island College of Medicine has established a graduate course in psychiatry of one, two, or three years' duration, leading to certification by the American Board of Psychiatry and Neurology, it was announced by Dr. Jean A. Curran, president of the College. The Veterans Administration is financing these doctor veterans in their full time course of graduate instruction.

Department of Illustration. — According to *Science,* September 1946, the Washington University School of Medicine, St. Louis, will inaugurate this fall a new department which will offer a complete medical photographic service, including clinical photography, photomicrography and motion pictures. The new department will be under the direction of K. Gramer Lewis, a professional photographer formerly with the photographic department, State University of Iowa.

Specialists Needed by Veterans Administration.—Dr. Paul R. Hawley, chief medical director of the Veterans Administration, has announced that specialists in physical medicine are urgently needed by the Veterans Administration for assignment to hospitals, and regional and subregional offices throughout the country.

Physical medicine physicians serving with Veterans Administration will be in charge of physical therapy, occupational therapy and corrective exercises, which will be coordinated with activities for educational retraining, shop retraining, aural rehabilitation and industrial therapy. Although overtime pay is not provided by law for doctors in Veterans Administration's department of medicine and surgery, such work is compensated for by higher initial pay, liberal promotion and leave policies and opportunities to obtain postgraduate instruction, the announcement revealed.

Applications should be submitted to a Veterans Administration branch office or to the regional office or hospital where appointment is desired. Positions will be offered in the grades commensurate with the applicants' training and experience in the field of physical medicine.

Schering Literature File.—The Schering Corporation, Bloomfield and Union, N. J., manufacturers of important endocrine and pharmaceutical preparations for the medical profession, has announced that they will present, free of charge, a sturdy cloth-bound literature filing box to all physicians. This file box is designed to simulate a technical reference text and is bound in red-purple cloth and stamped in gold.

Army Medical Library Aids Veterans Administration.—Under the reorganization of the Veterans Administration its medical libraries have been faced with increased demands for recent medical literature. The Army Medical Library has offered its cooperation by transferring from its stock of duplicates such books and periodicals as are in excess of its actual or anticipated needs, and is supplementing the reference service of these libraries through inter-library loan, reference and photoduplication services. Eighteen Veterans Administration libraries have been assisted to date through the contribution of books and periodicals.

Gorgas Award.—The Gorgas Medal, sponsored by Wyeth Incorporated, Philadelphia, and awarded annually by the Association of Military Surgeons of the United States for outstanding work in preventive medicine for the armed forces, was awarded this year to Brigadier General Raymond A. Kelser, at a dinner given in his honor during the annual convention of the Association at the Book-Cadillac Hotel, Detroit, on October 9, 1946. General Kelser was given the Gorgas Medal, which carries with it an honorarium of five hundred dollars, for his work in eradicating rinderpest in the Philippine Islands, making it possible for the Filipinos to have their own domestic milk supply. Now retired from active service, General Kelser is dean of the College of Veterinary Medicine and Professor of bacteriology, University of Pennsylvania.

Lasker Foundation Awards.—Dr. George Baehr, chairman of the American Public Health Association's committee on awards has announced that the Association will offer a series of annual awards for outstanding contributions in the fields of medical research and public health administration. They will be known as the Lasker Awards of the American Public Health Association and have been presented to the Association by the Albert and Mary Lasker Foundation. Three awards of one thousand dollars each are being offered for oustanding contributions to research related to diseases which are the most frequent causes of death and disability. Another, is for an outstanding contribution in the field of public health administration, and an additional award of two thousand five hundred dollars will be made for an especially important contribution in either field. The first presentation will take place at a banquet to be held during the seventy-fourth annual meeting of the American Public Health Association in Cleveland, during the week of November 11, 1946.

Surgeons' Meeting Postponed.—The American College of Surgeons has postponed its meeting scheduled for September 9 to 13 in New York, because hotels will be filled by delegates to the United Nations assembly. The meetings will be held in Cleveland in December.

Friday Afternoon Lectures.—During the months of November and December. the following lectures in the twenty-first series of Friday Afternoon Lectures will be given at the New York Academy of Medicine:

November 22: Addison's disease and relation of adrenal cortex to hypertension, by Dr. George A. Perera, associate in medicine, College of Physicians and Surgeons, Columbia University:

December 6: Colitis, by Dr. Z. Taylor Bercovitz, assistant clinical professor of medicine, New York Postgraduate Medical School, Columbia University and

December 13: Infectious mononucleosis, by Dr. John R. Paul, professor of preventive medicine, Yale University School of Medicine.

Research in Gastroenterology.—The Samuel S. Fels Fund Medical Research Laboratory and Temple University School of Medicine have jointly established a new organization for research in gastroenterology and internal medicine. The Fels Research Laboratory will henceforth be known as the Fels Research Institute of Temple University School of Medicine. The Temple University members will include Robert L. Johnson, president of the university; William N. Parkinson, dean of the School of Medicine; Charles L. Brown, head of the department of medicine and Robert L. Hamilton, chairman of the medical school committee on research. The Fels members are to be designated by their board. Harry Shay, who has been in charge of the Fels Research Laboratory since its establishment in 1934, will continue as director of the new Institute.

Current List of Medical Literature.—Dr. Atherton Seidell recently discussed with the librarian of the Faculté de Médecine and others a plan of cooperation in the publication of the *Current List of Medical Literature*. The division of the work would be on the basis of geographical sources of medical publications; all originating in continental Europe and published in languages other than English to be compiled and indexed by the Paris library, and those originating in all other parts of the world to be compiled as heretofore by the Army Medical Library. Thus, the *Current List* would consist of two parts, each of which would be made more complete and accurate than it is possible to make a single publication in either of the two countries. It is expected that this proposal will be considered by the Honorary Consultants to the Army Medical Library at their annual meeting. If given approval, attempts to put it into effect will be made.

Medical Research Fund.—The Life Insurance Medical Research Fund is making available post-graduate and student research fellowships to qualified residents of the United States and Canada, according to *Science,* July 26, 1946. For the present, preference will be given to those who wish to work on fundamental problems broadly related to cardiovascular function and disease. Fellowships are granted for one year and may begin at any time. Applications for grants to be held for the academic year 1946-47 will be acted upon in September. For subsequent academic years, applications must be received before January 1st. Further information and application forms may be obtained by writing to Dr. Francis R. Dieuaide, scientific director, Life Insurance Medical Research Fund, 333 Cedar Street, New Haven 11, Conn.

Listing of Medical Societies.—Because of the frequency of requests for current information about medical and scientific societies, the reference division of the Army Medical Library has compiled a file of such data. At the present time, there are represented in this collection approximately eleven hundred societies in the United States, Great Britain, and Canada in such fields as medicine, dentistry, veterinary medicine, homeopathy, chemistry and biology. International congresses and societies are also included. The name, address, and date of office of the secretary of a society, place and date of its annual meeting, serial publication issued by the society, and other pertinent details are recorded. This information supplements that provided by the fourth edition of the National Research Council's *Handbook of Scientific and Technical Societies and Institutions of the United States and Canada.*

Home Town Medical Care.—Dr. Paul R. Hawley, chief medical director of the Veterans Administration, recently announced that twenty states have agreed to supply home town medical care for veterans with service-connected disabilities, only when Veterans Administration facilities such as out-patient clinics cannot promptly treat the veterans or if traveling to such a Veterans Administration facility will involve undue hardship or excessive loss of time from work by the veteran. The thirteen states in which medical groups are treating veterans include: Michigan, California, Kansas, New Jersey, North Carolina, Washington, Oregon, West Virginia, Maine, Ohio, South Carolina, Illinois and the District of Columbia. This latter contract is for examination purposes only. States in which contracts have been signed by both Veterans Administration and the state medical group but which have not yet been put in operation include: Montana, New York, Wisconsin, Idaho and Pennsylvania. States in which the medical group has signed a contract but which Veterans Administration has not yet finally approved include Maryland and Utah.

Personal.—Dr. Courtney M. Smith, former deputy medical director and director of disaster medical service for the American Red Cross, has succeeded Dr. G. Foard McGinnes as medical director of the organization. Dr. McGinnes was recently appointed vice chairman for health services of the Red Cross.

Dr. Hart E. Van Riper, Scarsdale, N.Y., acting medical director of the National Foundation for Infantile Paralysis, has been appointed medical director, Basil O'Connor, president, recently announced.

Dr. John D. Ferry, University of Wisconsin, Madison, has been awarded the $1,000 Eli Lilly biochemistry award. The award was made for the development of fibrinogen plastic and fibrin tubes and films.

Dr. Harold Swanberg, Quincy, Ill., editor of the *Mississippi Valley Medical Journal,* has been honored by the Mississippi Valley Medical Society (which he founded in 1935) as its Distinguished Service Award Recipient for 1946. The award, consisting of a gold medal and a certificate was presented to Dr. Swanberg by the society's president, Dr. Grayson Carroll, St. Louis University, at the banquet on the occasion of the eleventh annual meeting at the Hotel Jefferson, St. Louis, September 26th.

The appointment of Dr. Richard A. Kern as professor and head of the department of medicine has been announced by Dr. William N. Parkinson, dean of Temple University School of Medicine and medical director of Temple University Hospital. Dr. Kern, who succeeds Dr. Charles L. Brown, recently appointed dean of the Hahnemann Medical School, comes to Temple from the University of Pennsylvania, where since 1934 he has been professor of clinical medicine and chief of the out-patient department and the allergy section of the University Hospital.

Dr. John R. Mote, Boston, has been appointed medical director of the pharmaceutical division of Armour Laboratories, Chicago. Dr. Mote was formerly assistant in the department of preventive medicine, Harvard University.

Dr. Oswald T. Avery, New York, has been awarded the Koher Medal of the Georgetown University School of Medicine, Washington, D.C., by the Association of American Physicians. Dr. Avery is associated with the Rockefeller Institute for Medical Research and was awarded the medal for research in pneumonia.

Dr. Alfred Blalock, surgeon in chief at Johns Hopkins hospital, Baltimore, was awarded the honorary degree of Doctor of Laws at the two hundred and forty-fifth annual commencement of Yale University.

Dr. Atherton Seidell, Army Medical Library Consultant, has returned to Paris to resume his work of setting up microfilm services for the exchange of medical literature. His efforts are directed toward the establishment of international documentation in medical bibliography.

Dr. Berwyn F. Mattison resigned August 31st from the position of district state health officer in charge of the Kingston area, to assume the duties of commissioner of health of the city of Yonkers. Doctor Mattison was appointed on the staff of the State Department of Health in 1940 and served successively as epidemeologist in-training, physician-in-training in public health, assistant district health officer, and district health officer. Since 1943 he has been in charge of the Kingston district office.

Rear Admiral Harold W. Smith, former chief of research in the Navy Bureau of Medicine and Surgery, left recently for Guam where he will assist in establishment of the Navy's new medical center to serve American naval and civilian personnel and native islanders within a radius of several thousand miles.

Dr. Raymond A. Kelser, professor of bacteriology and dean of the faculty, School of Veterinary Medicine, University of Pennsylvania; Dr. Hugh J. Morgan, professor of medicine, School of Medicine, Vanderbilt University, and Dr. James S. Simmons, dean of the Harvard School of Public Health, are now serving on the advisory editorial board of the *Bulletin of the U. S. Army Medical Department.*

Dr. A. C. Ivy, vice-president of the University of Illinois, has announced the appointment of Dr. Frederick C. Lendrum, assistant professor of medicine, as director of the reorganized and expanded health service at the university's professional colleges. Dr. Lendrum succeeds Dr. Edward Hurtado, who resigned to return to private practice. The new health service director's staff includes Dr. Joseph H. Filip, recently returned from army service in the European Theater of Operations and the Philippines, and Dr. Eslie Hartman, women's physician.

Pevigram

Pevigram, hesperidan chalcone, a new product manufactured by Ingram Laboratories, Inc., San Francisco, Calif., has been shown by clinicians in Europe and the Americas to decrease capillary permeability and increase capillary resistance in pathological conditions and where specific vitamin deficiencies exist. Pevigram is in excess of 90 percent pure hesperidin chalcone. It has been found that a deficiency of hesperidin may exist in man when he has been taking large doses of ascorbic acid for prolonged periods. Clinical manifestations of this condition include pains in the legs on exertion, pain across the shoulders, weakness, lassitude and fatigue. Capillary resistance is lowered and may be characterized by spontaneous pethechial hemorrhages, especially in areas subject to pressure. It has been found that such conditions respond to treatment with hesperidin chalcone. Pevigram is supplied in bottles of thirty, forty and one hundred milligrams.

DR. MAX MEYERHOF

SOLOMON R. KAGAN
Roxbury, Mass.

Dr. Max Meyerhof was born on March 21, 1874, in Hildesheim, Germany, the son of Albert Meyerhof, a Jewish merchant whose family was settled in that town for two centuries. His mother, Lina, née Spiegelberg, was the niece of Dr. Otto Spiegelberg, a professor of obstetrics in Goettingen and Breslau. A maternal cousin was Prof. Wilhelm Spiegelberg (1871-1930), famous egyptologist. Having lost his father very early, Max Meyerhof was educated by his mother. He studied medicine at the Universities of Heidelberg, Berlin and Strasburg, and passed his final examination in this latter university, in 1897, where he won his Doctor's degree in 1898 with a thesis on the bacillus diphtheria followed by a more extreme study on bacillus Proteus. In 1899 he abandoned batceriology and entered as an assistant in a Berlin private clinic, then at Bromberg, Poland, where he acquired a thorough knowledge of trachoma and its treatment.

In 1900 he undertook his first journey to Egypt, then completed his ophthalmological education with two years of study at Professor Uhthof's University Hospital in Breslau and settled down in Cairo in 1902. He immediately set to work to establish the bacteriological differential diagnosis of the various and grave infectious conjunctivitis prevalent in Egypt, and published many papers on this subject. His long and laborious investigations to discover the microbe of trachoma were not more successful than those of other investigators.

In 1914-18 Dr. Meyerhof served as a voluntary medical officer in the German Army, then settled down in Hanover and returned to Cairo with special permission of the British High Commissioner Field Marshal Lord Allenby, in 1922. He was (from 1910-12) chief of a Khedivial Ophthalmological Clinic where he gave postgraduate courses to young Egyptian oculists. The last twenty years of his life was devoted to private practice and scientific work, mostly historical research, and also to clinical observations.

In recognition of his great achievements, many honors were showered upon him. He was elected vice-president of the Institute d'Egypte (founded by Bonaparte), the Academy of History of Science (Paris), the Royal Society of Medicine (Cairo), the Association for Hebrew Studies (Cairo), honorary member of the Royal Ophthalmological Society of Egypt, and the Royal Society of Medicine (London). He received a Dr. Philosophiae honoris causa degree (Bonn) and several Egyptian and Red Cross decorations. He resigned the honorary membership and diplomas of all German and Austrian scientific societies when the Hitler persecution began.

Dr. Meyerhof learned Greek and Latin and also

Hebrew; studied Arabic and Syriac with Professor Littman (Tuebingen), learned by self-study Turkish, Persian and Hindustani, and spoke several European languages. During the Hitler persecution in Europe he received and answered thousands of letters from scholars who asked for help and recommendation to the Egyptian authorities; several were admitted to Egypt by his intervention. He was on good terms with all the foreign colonies in Egypt as well as with all classes of the Egyptian society.

Dr. Meyerhof made fundamental contributions to various branches of medical science. In the field of bacteriology and hygiene, he was the author of six publications on bacilli, tropical medicine and cocainism in Egypt. His main scientific contributions dealt with ophthalmology. He published about sixty papers on pathological anatomy of the eye, tumors, the forms of conjunctivitis in Egypt and their bacteriological etiology, the influence of climate and seasons, statistics, trachoma and its complications, hereditary myopia among the Oriental races, glaucoma and high myopia, lepra of the eye, spring catarrh, operative treatment of trachoma and glaucoma, styes and chalazions, profound trachomatous keratitis, trachoma healing without scars, the differential diagnosis between acute follicular conjuctivits and trachoma, etc. His works were published mostly in English in the *Bulletin of the Ophthalmological Society of Egypt,* also in French in various French journals, and in German in *Klinische Monatsblatt.*

Dr. Meyerhof also contributed original work to the history of ophthalmology. His numerous publications in this field dealt mainly with the history of ophthalmology in Egypt, the Arabic ophthalmological manuscripts in the Egyptian State Library and in private libraries in Egypt, different Syriac and Arabic treatises of ophthalmology, the optics of the Arabs, the first description of pannus, trachoma as a war epidemic, the ophthalmias during Bonaparte's campaigns in Egypt, the cataract operation of Antyllusof Alexandria from Arabic sources, Greek Ophthalmological lost treaties preserved by the Arabs, eye disease in Ancient Egypt, etc. He was the author of the following books: *The Book of the Ten Treatises on the Eye* by Hunain ibn Ishag (in English and Arabic), Cairo, 1928; *Le guide oculistique d'al-Ghafiqi,* Barcelona, 1933; *Las operaciones de catarata de Ammar al-Mawsili,* Barcelona, 1937 (in Spanish, English, French, German, and Arabic). With P. Seath he was the author of *Le livre des questions sur l'oeil de Honein ibn Ishaq* (in French and Arabic). Cairo, 1938.

Dr. Meyerhof also published interesting articles on the history of general medicine and science: popular medicine in Egypt, misuse of hashish, the first mention of syphilis in Egypt, former epidemics of plague, the drug bazaar of Cairo, Hunian ibn Ishaq and his period, an Arabic compendium of medicophilosophical definitions, the Syriac and Arabic translations of Galen's works, clinical observations by Rhazes, Ibn-an Nafis and his theory of the lesser circulation, Ali at-Tabari's medical treatise, mediaeval Jewish physicians, the pharmacology of al-Idrisi, al-Ghafiqi and Maimonides, the end of the Alexandrian School on medical libraries, an Arabic medicophilosophical controversy, the history of pharmacology among the Spanish Moslems and Jews, the first mention of sleeping sickness in the Sudan, ibero-Portuguese drug names in Arabic and the philosophy of Rhazes.

Dr. Meyerhof himself or in collaboration with other investigators published the following books on a variety of topics: *Un glossaire de matiere medicale* par Maimonide, Cairo, 1940; *The Book of Simple Drugs* by al-Ghafigi (4 fasc. published), Cairo (in English and Arabic with Dr. Sobhy). 1932-40; *Von Alexandrien nach Bagdad,* Berlin, 1930; *Ibn Butlan and Ibn Ridwan* (with Dr. Schacht), Cairo, 1937; (With D. Joannidès) *La gynecologie et obstertrique chez Avicenne et leurs rapports avec celle des Grecs,* Cairo, 1938; (With D. Joannidès) *La Gynecologie et obstetrique chez Paul d'Egine et son influence sur la médecine arabe,* 1940; (With D. Joannidès) *Esquisse de la philosophie des medecins Grecs,* Cairo, 1941; and *Das Vorwort zur Drogenkunde des Beruni* (in German and Arabic), Berlin, 1932.

He was a modest and kind man, a dignified and inspiring teacher and the author of original work in the fields of bacteriology, ophthalmology and medical history.

Dr. Max Meyerhof died in Cairo, Egypt, in April 1945.

176 SEAVER STREET

Streptomycin In the Treatment of Tuberculosis

Dr. H. McLeod Riggins, N. Y., president of the National Tuberculosis Association, announced that distribution of a limited amount of streptomycin for clinical experiments in the treatment of tuberculosis will be handled by the American Trudeau Society, medical section of the association.

In response to a request by the Civilian Production Administration and a group of pharmaceutical manufacturers, Dr. Riggins has appointed a special committee headed by Dr. H. Corwin Hinshaw, Mayo Clinic, Rochester, Minn., to correlate the carefully planned clinical research studies to be carried out in hospitals and sanatoriums designated by the executive committee of the American Trudeau Society. The object of these studies will be to determine the possibilities and limitations of streptomycin in the treatment of tuberculosis and to learn if the drug is sufficiently effective to justify increased commercial production, he explained.

Pointing out the high cost and limited quantity of the drug, he said it would be impossible at this time to supply many well qualified investigators or to assign it for individual cases, regardless of the degree of urgency.

Dr. Hinshaw, who has conducted studies in streptomycin for the past twenty months, warned that it has not yet been sufficiently tested to warrant large scale production and use in the treatment of tuberculosis. He emphasized that the drug cannot be regarded as a substitute for present methods of sanatorium and surgical therapy.

Letter From Britain

(From Our Own Correspondent)

British Chemical Society Centenary

The British Chemical Society was founded in February 1841. The celebration of its centenary, delayed by the war, was celebrated in London in July of this year.

Psychological Medicine

The universities of London, Durham, Leeds, Manchester, Edinburgh, Belfast, Dublin (Trinity College), Ireland (National University) and the English Conjoint Board offer diplomas in psychological medicine. The University of London also grants similar diplomas.

Second Chair of Chemistry at Birmingham

A second chair of chemistry has been established in the department of chemistry, Birmingham University. Dr. Maurice Stacey, reader in biological chemistry, has been appointed to it. A brilliant research worker, in 1937, he spent some time with Professor M. Heidelberger at the College of Physicians and Surgeons, Columbia University, N. Y.

Medical Students' Journal

The British Students' Association has published an international issue, well arranged, written and presented. This association was founded during the last war. The first number of this journal, a special international edition, has been published. The second issue came out in October and the journal will now appear quarterly.

Industrial Medicine

The Society of Apothecaries of London and the English Conjoint Board have instituted diplomas in industrial medicine. It may be added that this is a wise move as the stimulus which the war gave to industry, activated industrial medicine into the service of the country and it is to be hoped that in peace industrial medicine will aid in bringing prosperity which depends largely on the good health and well-being of the workers.

Newton Tercentenary Celebrations

In 1942 the three hundredth anniversary of the birth of Isaac Newton occurred. The war prevented celebrations of the event then. The Royal Society of London has taken the initiative of writing the national academies of science of the world to join with it in honoring his memory. The British Royal Observatory is to be removed from Greenwich to Herstmonceny in Sussex. The British government will implement the proposal that a Newton Observatory should be set up. The plan is that this observatory will have a hundred inch reflecting telescope and will be placed near the Royal Observatory at Herstmonceny. The tercentenary too, of John Flamsteed, the first British royal astronomer, was last August 18th.

Ophthalmology

Three British examining boards give diplomas in ophthalmology. The University of Oxford and the English and Irish Conjoint Boards. The Royal College of Surgeons is applying for a supplemental charter so that ophthalmological candidates may obtain the F.R.C.S. on passing the ordinary primary examination and a special final examination equal in standard and similar in form to the ordinary examination.

St. Bartholomew's Hospital Medical College

This medical college has now returned to London although the hospital is responsible for between five and six hundred beds at St. Albans some twenty-five miles distant where six months of the last year of the clinical course is spent in work in medicine, surgery and gynecology. Some of the London buildings which were comparatively new were damaged during the last war but while repairs to the damaged buildings are only temporary, accommodation is adequate. It is anticipated and hoped that the rebuilding of the college will begin soon and that before long the hospital will acquire buildings to be used as a student's hostel.

Guy's Hospital

This large teaching hospital with a great record for the able physicians and surgeons who were trained there and for those on the teaching staff, Addison, Bright, Hodgkin and Arbuthnot Lane for instance, is back on a prewar basis with the exception of only the parts destroyed by enemy action. The medical wards are in use again, and the surgical wards not structurally damaged have been reopened. Special departments are still retained at Orpington, a few miles out of London, where the hospital was removed during the war. It may be added that the majority of entries for this year are ex-servicemen.

New School for Women

The number of women in medicine have increased and are increasing in Britain and they require a large share in any further increase in student accommodation. The Goodenough Committee recently recommended that the West London Hospital, where a large number of women have received a part of their medical training, should be abandoned as an undergraduate teaching center. Many think that this hospital should be given up as a teaching and training medical school and believe that as a nucleus might be used as a basis for a new medical school for women, particularly so as there seems to be no immediate prospect of establishing one elsewhere in England; to found another school outside London, will take considerable time, several years at any rate. It appears that to relinquish the West London Hospital as a teaching and training center may be unadvisable and not in the best interests of medical students, or of women medical students in particular. This is a question which needs consideration.

Book Reviews

Biochemistry

Clinical Biochemistry. By ABRAHAM CANTAROW, M.D., professor of physiological chemistry, Jefferson Medical College; and MAX TRUMPER, Ph.D., Lt. Commander, H (S), USNR, Naval Medical Research Institute, National Naval Medical Center, Bethesda, Md. Third edition, revised. Philadelphia and London: W. B. Saunders Co., 1945. Pp. 647. Price $6.50.

The third revised edition of this book was necessitated by the newer knowledge in biochemistry required during the past five years. The following topics have been included in the new additional matter: the intravenous glucose tolerance test; the insulin tolerance test; present views regarding ketosis; abnormal serum globulin reactions; creatine tolerance test; acid phosphatase in prostatic malignancy; serum organic iodine in thyroid disease; intermediate metabolism of iron; tests for adrenal hypofunction and hyperfunction; sulfur metabolism; inulin, diodrast and hippuran clearance studies in the evaluation of glomerular and tubular function and renal blood flow; blood galactose in the galactose tolerance test; colloidal gold, cephalin-cholesterol and plasma prothrombin tests of hepatic function; porphyrin metabolism; quantitative studies of direct-reacting serum bilirubin; classifications of jaundice; present views regarding the physiology of gastric and pancreatic secretions; the secretin test in the study of pancreatic function; serum amylase and lipase in acute pancreatitis; new methods for the study of deficiency in vitamin A, thiamine, riboflavin, nicotinic acid, ascorbic acid and vitamin K. A new chapter by Dr. A. E. Rakoff has been added, on "Hormone Assay and Endocrine Function," in which he considers the available methods for estimating the functional activity of endocrine glands.

The authors present controversial subjects in an impartial manner and supplement this by an expression of personal opinion wherever possible. Almost all of the statements regarding the clinical value of the laboratory findings are supported by personal experience.

The increasing specialization of medical science and practice is illustrated by the scope of this book concerning biochemical pathology—almost an entirely new science based on biochemical observations in a constantly increasing number of abnormal states. The knowledge has become correspondingly valuable in medicine and especially in surgery, where the observations frequently tell us facts which are of extreme importance in the preparation of patients for operation and in the subsequent postoperative period. The application of this knowledge is fundamentally valuable in aberrations of endocrine renal and hepatic function, in nutritional defects, oedema, dehydration, etc. All of this must be integrated by the clinician in his daily practice, but must, nevertheless, be fundamentally judged by their clinical knowledge and application.

The book which is intended for just this purpose, is especially worthy of commendation, because it gives all of this information in a manner most easily grasped by the beginner, and most easily referred to by his elder colleagues. The subject matter is well arranged and the fact that the book is fully documented should make it very valuable for progressive students and practitioners.

Asthma

Bronchial Asthma. By LEON UNGER, M.D., assistant professor, department of medicine, Northwestern University Medical School, Chicago. Introduction by MORRIS FISHBEIN, M.D., editor, *J.A.M.A.* Illustrated, with 126 figures. Springfield, Ill., Charles C. Thomas, 1945. Pp. 724. Price $9.00.

Probably the most heartening sentence in this book is to be found on page 524. "Bronchial Asthma is 'curable'." Based on years of experience, the author makes this statement with confidence, but he wishes to *prevent* rather than *cure* this condition by beginning in early life, before emphysema and chronic bronchitis have so changed the lungs that recovery is not to be expected. Dr. Unger is an allergist and an enthusiast. He believes the exciting factors are chiefly allergic and that hyposensitization plus endocrine and psychogenic management offer the best means for helping the asthmatic sufferer.

It all began in a dugout in Germany during World War I where the author found some medicine left behind by the Germans labeled "epinephrin". Returning home in 1919, he gave some to his grandmother who suffered from extreme shortness of breath and loud wheezing. In a few minutes after injection the wheezing disappeared and breathing was free. Shortly thereafter, a woman, aged forty-one, who was a victim of wheat-containing foods, and a boy who was highly sensitive to cat hair came under his care and were promptly relieved by removing the exciting causes.

Dr. Fishbein truly states that after all that a complete knowledge of allergy can offer, there will still be "cases which demand study from other points of view".

The focal infection specialists receive scant recognition from Dr. Unger (p. 461). He says that surgical measures, removal of tonsils and adenoids, nasal polypi, infected teeth, sinus operations, prostatectomy and other such, may give temporary relief, but asthma always comes back after a short time. In fact he has seen asthma *begin* shortly after tonsillectomy, but admits that this is no argument against doing the operation for other reasons.

Asthma in the aged is, of course, often complicated by heart, kidney and other conditions; therefore desensitization is not enough. One must correct all conditions which are correctible. Results in the aged are not as good as in younger persons, which is to be expected, but "improvement can be obtained in a large percentage of cases".

This is a thought-provoking book, but it will not satisfy "the opposition".

Medical Practice

Industrial Medicine. Edited by Sir Humphrey Rolleston, Bt., and Alan Moncrieff, M.D., F.R.C.P., with an introduction by Vice-Marshall Sir David Munro. Published on behalf of the practitioner. London: Eyre and Spottiswooded, 1944. Pp. 20.

These practitioner handbooks aim to cover all the fields of medicine in a simple and helpful manner. In this country their rightful place would be in refresher courses which aim to bring up to date the medical man who is still mentally alive to advances and changes. British writers have gone all out on "works medicine" during the past two decades, and therefore hundreds of monographs have been published on every disease and condition which affects the worker. Industrial medicine, they say, is occupational medicine, but even in factory areas, there are many local practitioners who are not fully familiar with the exigencies especially concerned with labor activities. The contents of this brochure endeavor to acquaint the reader with these conditions as fully as is possible. The aim is to reach those who have no time to visit plants and study environment at first hand. Chapter headings are: Industrial Poisons, Dermatoses, Chest Diseases, Miner's Nystagums, Toxic Anemia, The Injured Workman, Backstrain, Neuroses, Fatigue and Boredom, Lighting, Ventilation and Heating, Adolescents, Welfare, and Nutritional Problems. Here we have spread before us socialized medicine in its pristine state without reference to medical practice as such, to the physician as a member of organized society, or to his living problems or to medical economics. One has seen very little of late concerning the panel system in Great Britain. Is it working well for all concerned or not? The war seems to have put the hush-hush on any medical dissatisfaction. Doubtless we shall hear more about this if and when the British settle down again after their bombed out cities have been fairly restored.

Electron Microscope

The Electron Microscope. An Introduction to its Fundamental Principles and Applications. By E. F. Burton, head of the department of physics and director of the McLennan Laboratory, University of Toronto; and W. H. Kohl, formerly chief engineer, Rogers Electronic Tubes Limited, Toronto. Second edition. Illustrated. New York: Reinhold Publishing Corp., 1946. Pp. 325. Price $5.00.

The increasing importance of the electron microscope in scientific research and in industry is undoubted. The second edition of this book brings the description of the electron microscope up to date. As in the first edition the preliminary subject matter takes up vision and the workings of the ordinary light microscope, discusses the nature of light and the electromagnetic theory of light and then passes on to a discussion of the electron. The dual theory of light is assumed also in explaining the nature and motion of the electron. Electron paths are seen to act similar to light rays and in controlling and modifying the electron paths, magnetic lines of force are utilized as an electro magnetic lens and take the place of the solid lens in the ordinary light microscope. The theoretical development of the latter into the electrostatic electron microscope is followed by the practical application of this theoretical knowledge into the construction of a workable instrument. This discussion is excellent. Finally the practical applications of the electron microscope in science and in industry is described.

As would be expected in this type of book, many short cuts have necessarily been employed in arriving at the finished discussions. Nevertheless, the latter are sufficiently full to enable the early student with a good scientific background to follow along understandingly. The text is abundantly amplified with easily understood rather homely examples and with abundant clear diagrams. For one far advanced in electronic science it might possibly be wished that the discussions would be much fuller and deeper. Avenues of thought might be stimulated and elicited thereby which would lead, perhaps, to new ideas and to the further development of construction knowledge so that a more mobile type of instrument might eventually be produced.

Dermatology

Cosmetics and Dermatitis. By Louis Schwartz, M.D., medical director, U. S. Public Health Service; chief, dermatoses section, Division of Industrial Hygiene; and Samuel M. Peck, M.D., medical director (R) U. S. Public Health Service; associate attending dermatologist, Mt. Sinai Hospital, N.Y. Illustrated. New York and London: Paul B. Hoeber, Inc., 1946. Pp. 189. Price $4.00.

The manufacture of cosmetics of all kinds has become one of the great American industries. An effort to be as beautiful as possible is commendable on the part of all women, but they often pay an unexpected and high price for their folly. Anyone who doubts this need turn only to the colored photograph which is the frontispiece to this book. Here one sees a "nail polish dermatitis" which involves the eyes, face, neck and chest. It is due to a formaldehyde preparation.

Many physicians including dermatologists know little or nothing of the chemicals used in these builders of beauty. That may be permissable, but the purveyors ought to know all about the skin upon which they advise, through urgent appeals in press and on radio, the application of their beautifiers.

This book is compiled from articles dealing with dermatitis between 1935 and 1944, from books on the manufacture of cosmetics, and from extensive experience in dermatology. Occupational dermatitis affects barbers, hair dressers and beauticians. Depilatories sometimes cause abscesses and dermatitis arises from "creams".

However, Chapter 22 cites the beneficial value of cosmetics. They may be cleansing, emollient, protective and tonic to the skin. Certain ones do away with excessive perspiration in the axillae, and deodorize it. For this people with sharp-smelling noses should be thankful.

This is an informative primer.

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NOVEMBER 1946

Medicolegal Notes

Evidence of Aggravation of Condition

The rule in Washington is that evidence in a Workmen's Compensation Case of subjective symptoms standing alone is insufficient to sustain the opinion of a physician that aggravation of a claimant's condition has resulted from his injuries. Solberg vs. Department of Labor and Industries, 169 P. 2d 701, but if there is substantial evidence of aggravation the issue must be submitted to the jury.

Causal Connection Between Blow and Death; Interest on Award

In a proceeding under the New Jersey Workmen's Compensation Act for the death of an employee of the defendant who had been sent to deliver and install a pyrofax gas tank it appeared that after the tank had been placed, but before the gas was turned on or the cabinet cover closed the decedent was seen to go into the cellar, come out again staggering and fall. He was found unconscious on the driveway. He had a contusion above the left eye, one inch in diameter and raised half an inch. He was taken to a hospital where he died two days later from a cerebral or intracranial hemorrhage. In 1933, ten years earlier, he had suffered a severe concussion of the brain as the result of an accident for which he was treated medically for two years.

The parties agreed that the only question in the case was whether the injury from which the decedent died was an accidental one arising out of his employment, whether the blow which resulted in the contusion preceded and was a cause of the cerebral hemorrhage, or whether the latter was induced by natural causes within the decedent and the bump an incident of his loss of control over himself. If the second of these propositions was correct, any injury did not arise out of the employment by the defendant and was not compensable. The medical expert testimony, reviewed by the court, was in conflict.

The New Hampshire Supreme Court's conclusion, on weighing this conflicting medical and other testimony was that it would not be unreasonable to find from the evidence "that the decedent's death was due to a blow on the forehead with the weakening of the blood vessels in the brain brought about by the 1933 concussion and the strain of the work performed August 4, 1943, as contributing causes that it was more probable than otherwise that the blow preceded and was a cause of the intracranial hemorrhage. The plain contusion with no abrasions on the face was not such as would have come from the fall on the driveway and some other cause was indicated." The evidence was therefore held to justify the award of compensation.

The petitioner was held entitled to interest from the date of the award only and not from the date of the employee's death, the New Hampshire statute being silent as to interest. The court followed the rule applied in other jurisdictions in which workmen's compensation acts have no provision with respect to interest, that is, that the general interest statute of the state has been applied, and under the general interest statute in New Hampshire that is applicable the plaintiff was entitled to interest from the date of the award only. Pearson vs. Wallace, 42 A. 2d 738.

Coronary Sclerosis Held Accident

The Second Circuit Court of Appeals, Harbor Marine Contracting Co., vs. Lowe, 152 F. 2d 845, following the cases in the Federal Courts which, with practical unanimity have followed the settled English view in construing the Longshoremen's and Harbor Workers' Act as covering an unexpected and undesigned consequence of the work and working conditions which hastens an employee's death, held that the evidence, including the testimony of deceased's attending physician, supported a finding that the death of the employee, who had a heart condition, of coronary sclerosis, was an accidental death arising out of and in course of employment within the Act where the employee's work in sweeping up soot on the floor of the ship's boiler aggravated his heart condition.

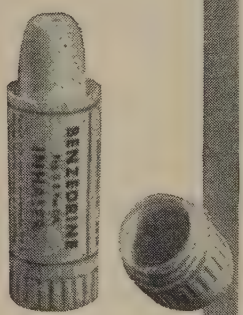
"Benzedrine Inhaler appears to eliminate the pain and discomfort which children associate with 'nose drops'... It can be administered with ease even to infants."

Scarano, J. A., and Coppolino, J. F.: Arch. Pediat. 54:97

Widespread pediatric acceptance

Children accept treatment with Benzedrine Inhaler, N. N. R., willingly, often with eagerness, and show none of the hostility which so often complicates treatment with drops, tampons, or sprays. The Inhaler, furthermore, produces a shrinkage of the nasal mucosa equal to, or greater than, that produced by ephedrine.

Each Benzedrine Inhaler is packed with racemic amphetamine, S. K. F., 250 mg.; menthol, 12.5 mg.; and aromatics.



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The age level of the population of the United States has been increasing at an accelerated rate. In 1800 the median age—the age which divides the population into equal groups younger and older than the median—was sixteen; in 1900, twenty-three; and in 1940, twenty-nine. Main causes of the higher age level, points out the Metropolitan Life Insurance Company, New York, have been the long-term fall in birth rates, decrease in youthful immigration, and increase in the average span of life. These factors are still operating and the prospect is for further elevation in the age level.

Penicillin Price Reduced

Wyeth Incorporated, Philadelphia, Pa., one of the leading producers of oral penicillin, recently announced another price reduction in its oral penicillin tablets, Penioral, the new price being $2.50 per vial of one dozen tablets of twenty-five thousand units each. This is the second time in seven months Wyeth has cut its oral penicillin price, the first time being on April 1, 1946, when the price was slashed fifty percent from $4.50 per vial, to $2.25. Again, as in the previous cut, the reason given was lower production costs.

The new price became effective as of October 1st, and all druggists, it was announced, will receive full credit on all purchases of Penioral tablets made from Wyeth, between September 1st and September 30, 1946.

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THYROBROM minimizes the thyrotoxic effects of plain thyroid without sacrificing a single physiological action afforded by thyroid medication.

A recent clinical study[1] of 60 obese persons showed the incidence of nervousness and palpitation while on THYROBROM therapy to be 64% less than when the same group was treated with similar doses of thyroid U.S.P. At the same time, THYROBROM was over 35% more effective in achieving weight reduction.

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THYROBROM may be prescribed in hypothyroid obesity or in any indication for thyroid U.S.P. It may be tried in cases in which U.S.P. thyroid is not well tolerated.

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[1]M. Rec., 158:420, 1945 *U. S. Pat. No. 2,395,372

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Swartz & Reilly, "Diagnosis and Treatment of Skin Diseases", p. 66

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Poliomyelitis Grants

The National Foundation for Infantile Paralysis has announced twenty-nine grants totaling $1,527,700 which bring to $11,071,962.34 the amount appropriated for poliomyelitis research and education since the foundation was organized by Franklin D. Roosevelt in 1938. The recent grants were made to: Georgia Warm Springs Foundation for graduate training in poliomyelitis treatment; Marquette University, Milwaukee, for studying muscle and neuromuscular apparatus; and Washington University, St. Louis, for studying transmissibility of encephalitis by chicken mites.

Vaccine Against Dengue Fever

By successive inoculation of mice brains, the virus of dengue fever becomes sufficiently attenuated to be safe for use as a vaccine. The extract from the brain of a single mouse contains at least ten thousand immunizing doses against dengue fever, according to the Commission on Neurotropic Virus Diseases of the Army Epidemiological Board. The virus of dengue fever was first isolated by Army doctors in Hawaii and then brought to the United States. In the course of thirty-two consecutive passages through the brains of mice, the virus is still capable of producing an abortive phase of the disease in men; the vaccine consequently may be used prophylactically.

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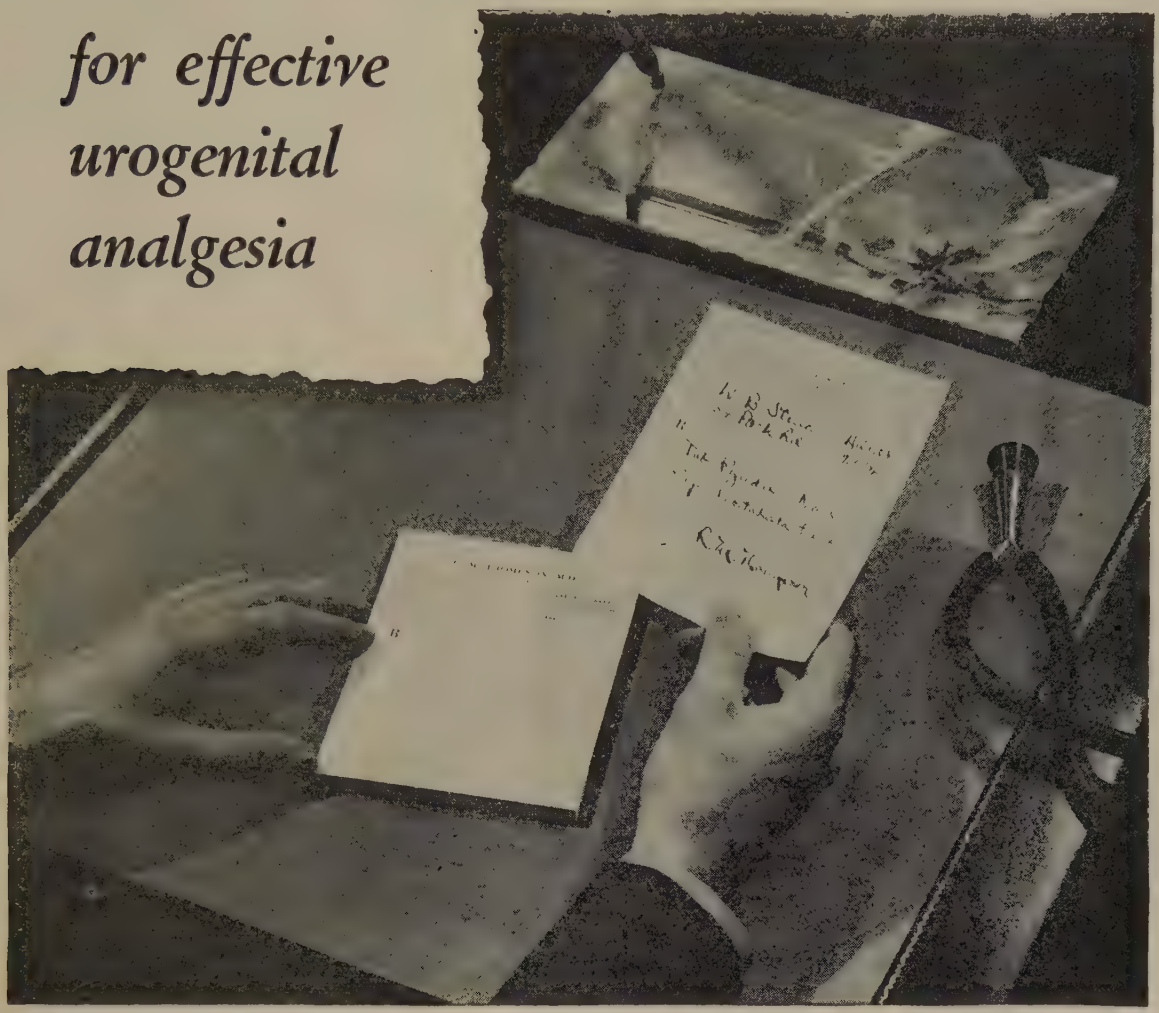

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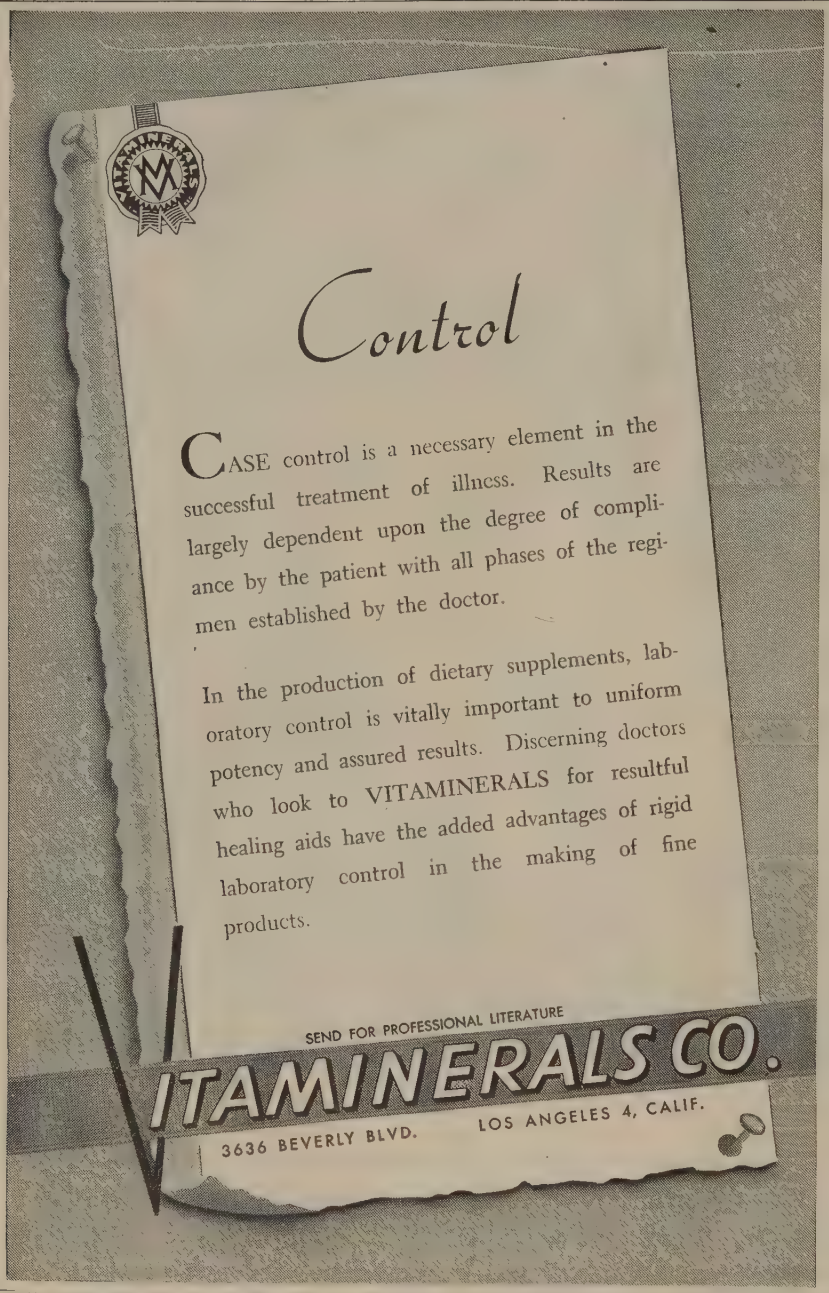
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The national health service bill, now under congressional consideration, will preserve rather than endanger freedom of American medicine, Joseph W. Mountin, M. D., of the U. S. Public Health Service believes. Doctor-patient relationships will be maintained, but the cash barrier will be eliminated. An insured person will be free to see a doctor of his own choice without official authorization. Even an eligibility card will be unnecessary if one hundred percent of the population is covered.

Participation by physicians is voluntary. If a doctor joins the program he may still maintain a private practice and retain the right to reject a patient. A majority vote of doctors in each area will determine the manner of payment, whether fee-for-service, capitation, or full or part-time salary. Dissident practitioners may be paid by the method of their choice if administratively feasible. Specialists may work out methods of remuneration with the surgeon general. Fees and salaries will not be nationally uniform, since the bill provides for variations to take account of factors that govern present incomes.

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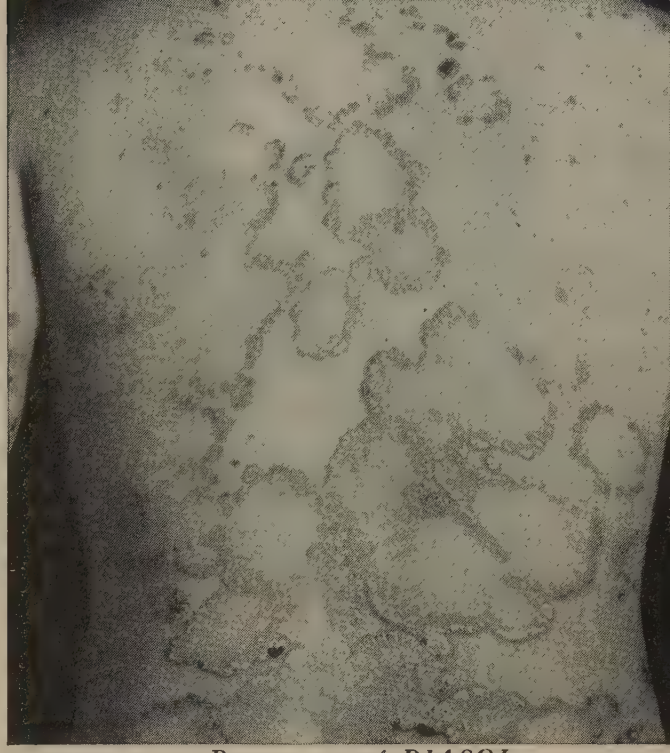

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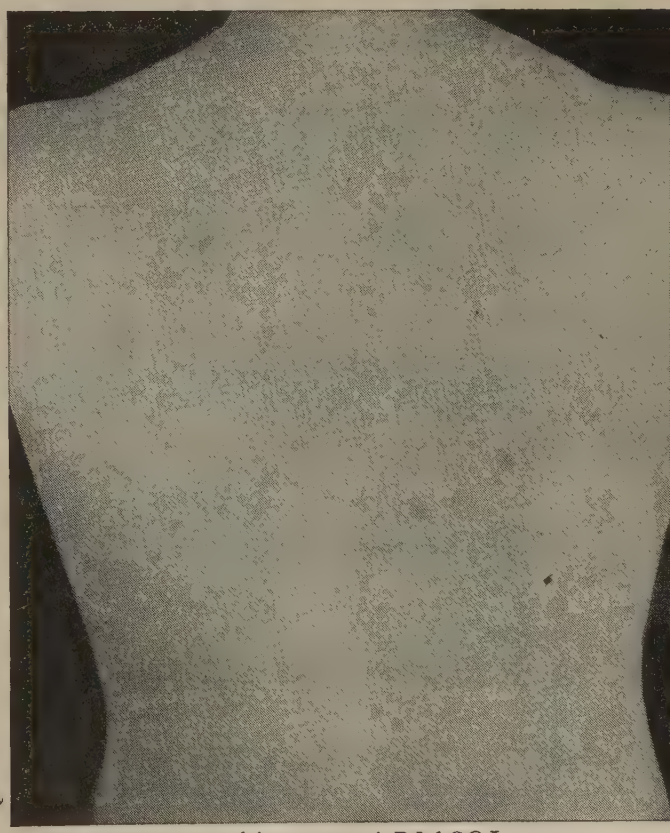

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Uncomplicated oral administration of Mandelamine requires no supplementary acidification, restriction of fluid intake, dietary control, or other special measures. Only in those infections due to urea-splitting organisms, may accessory acidification be necessary.

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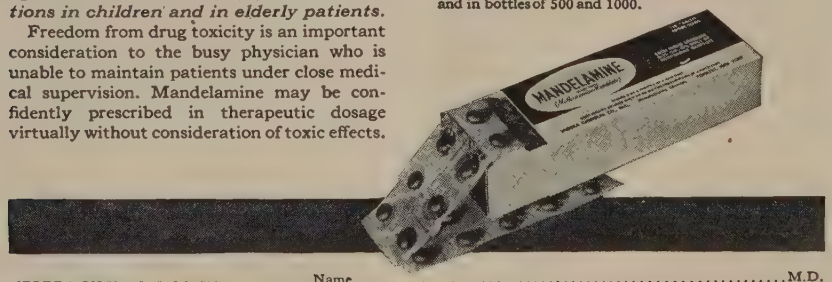

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Industrial Mortality at Record Low

According to the *Statistical Bulletin* of the Metropolitan Life Insurance Company, the death rate among industrial policyholders in the second quarter of 1946 equaled the all-time low record in 1942. The record for 1946 shows up particularly well when compared with that for 1944, which, like the present year, had an epidemic of respiratory disease in the early weeks. The death rates for the current year are below those for the first half of 1944 at every age period without exception, among both white males and white females.

The marked improvement in mortality in recent months is reflected in the record for the specific diseases. For example, the mortality from influenza and pneumonia, which, for the January to March period, showed an excess of more than twenty percent over last year, is now only six percent above the rate for the first half of 1945. The death rate from pneumonia, in fact, has dropped below the level of a year ago and has established a new minimum for this period

The record for tuberculosis is likewise favorable. The rate for the six months period—39.6 per one hundred thousand policyholders — is only two percent above that registered in the like period of 1945. At the end of March the excess was about five times as much. It now appears probable that when the record for all of 1946 is in, it will show that the long-time downward trend of annual death rates from tuberculosis has continued uninterrupted.

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For the cardiovascular-renal diseases the excess has been reduced from nearly nine to four percent, and for cancer from four to less than two percent.

Several diseases have registered minimal rates for the first six months of 1946. The list includes typhoid fever, scarlet fever, syphilis, diarrhea and enteritis, appendicitis, and diseases of the puerperal state. In addition whooping cough and diphtheria are recording rates very little above their minimal level. Measles alone, among the principal communicable diseases of childhood, has shown an appreciable increase in 1946 as a result of the widespread prevalence of the disease. But even here the rate is still only one per one hundred thousand policyholders.

There has been a remarkable decline in the mortality from appendicitis. The death rate from this cause for the first six months of the year was only 3.5 per one hundred thousand insured, less than half the corresponding rate five years ago, and less than one third that of a decade ago.

Another favorable development this year has been the continued decline in the mortality from cerebrospinal meningitis. The rate so far this year is 1.1 per one hundred thousand insured, or down fifteen percent from the comparable figure of last year. The death rate, moreover, is only one third of that in 1943 and 1944, when wartime conditions led to a new high in the incidence of the disease. Fortunately, the use of the sulfa drugs has kept the proportion of deaths to cases comparatively low during these years.

Oral administration of Tablets Estrogenic Hormones, R & C, on daily dosage schedule, minimizes fluctuations of therapeutic blood estrogen levels, and assures sustained relief of menopausal symptoms, in most cases. Severe symptoms should first be brought under control with injections of Estrogenic Hormones, R & C, in oil. In mild cases, the Tablets may be effective as initial therapy.

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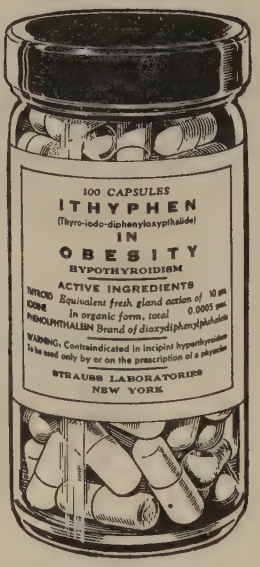

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Mustard Gas As Anemia Treatment

According to the Office of the Surgeon General, a chemical agent which would have about the same effect as x radiation on neoplastic tissue the tissue of such malignant growths as cancer has been sought for some years by medical investigators. One now appears to have been discovered in a curious way.

One of the terrors of the first World War were mustard gases. Among these, both in the United States and Great Britain, were the socalled "nitrogen mustards." Their precise effects on the human organism were investigated in order to devise adequate defenses and proper medical treatment in case they were introduced by the enemy. They were found to produce profound anemias due to their specific effects on lymphatic tissue and bone marrow where blood cells are formed. The effect was very similar to that caused by heavy x radiation. This finding led to the possibility that, used in rigidly measured doses, they might actually be used as medicines for blood and lymph neoplasms. They are very potent poisons. The problem is to administer them by injection in such balance that they will do much more harm to unwanted tissue than to surrounding healthy and normal tissue. This also is the problem with x ray treatment.

Experiments have been carried out in several institutions in order to obtain a fair evaluation of the nitrogen mustards before they are accepted as recognized medicinal agents. Among these institutions is the New York Memorial Hospital. The results have been reported in a paper submitted to the War Department Surgeon General's Office by Captain D. A. Karnofsky of the Army Medical Corps who worked in cooperation with Drs. L. F. Craver, C. P. Rhoads and J. C. Abels.

The agents were used in treatment of several types of malignant anemias. In one type they proved quite successful. The results were comparable with those that would have been expected from x radiation. This was Hodgkin's Disease, characterized by severe enlargement of the lymph nodes and the spleen, accompanied by a profound anemia which eventually proves fatal. The malady is rare, but has been known for about a century. Altogether twenty-eight patients with this disease were treated at Memorial Hospital, Captain Karnofsky reported. Three, in which the condition was caught in its early stages, received no other treatment from the first. The others had received x ray therapy. It was found that there were conspicuous beneficial effects. After each treatment there was temporary alleviation of the weakness, fever and loss of weight ordinarily associated with Hodgkin's Disease. There was an improvement in general well being. Anemia was improved in two relatively early cases, but there was no improvement in patients with severe anemia in advanced stages of the disease. There is no reason to

believe that any cures have resulted from this therapy but life has been prolonged similar to that after x ray therapy. Transient regressions were obtained in cases of lymphosarcoma, a malignant growth of the lymph nodes, but the progress of the disease was not materially affected. Five of those treated were dead within eleven months of the recognized onset of the malady. The remaining patient, a year after the onset, is now in very poor condition. Other malignant maladies showed little improvement.

Nitrogen mustard, concluded the report: "is a chemotherapeutic agent with activity against certain forms of neoplastic disease. Under present methods of therapy, however, it offered no therapeutic advantage over properly used x rays. In fact, x rays were ordinarily to be preferred. In certain cases of Hodgkin's Disease with generalized systemic symptoms for which x ray treatment was no longer feasible or effective temporary symptomatic remissions were induced. The general use in preference to standard methods of x ray therapy is not recommended until the therapeutic indications and limitations of this new agent are more precisely determined by further clinical studies."

Institute for Research In Tropical Medicine

Establishment in Liberia of an Institute for Research in Tropical Medicine for the development of effective methods of disease control and eradication was announced by Dr. Thomas T. Mackie, president of the American Foundation for Tropical Medicine which will operate the institute. Construction of the new institute has been assured through a gift of $250,000 from Harvey S. Firestone, Jr., president of the Firestone Tire and Rubber Company. The institute, he said, will be equipped to permit investigation of the numerous factors contributing to the medical and economic problems of the tropics. The scientific work will be undertaken under the supervisory direction of a group of leading universities and medical schools through representative members of their faculties.

Objectives of the new institute, as elaborated by Dr. Mackie, include a direct attack against the vicious circle of endemic medical problems in the tropics; development and improvement of local economies for the benefit both of local populations and local and foreign business enterprises; providing stimulus and facilities for educational institutions in the United States for research and teaching in this important field of medicine, and utilizing medicine to promote international understanding.

"The future importance of tropical areas throughout the world can hardly be underestimated," Dr. Mackie said. "Both from the national and international viewpoints, strong and continued support for graduate education and research in tropical medicine is urgently needed, yet existing university funds are already too burdened to permit adequate developments in this field."

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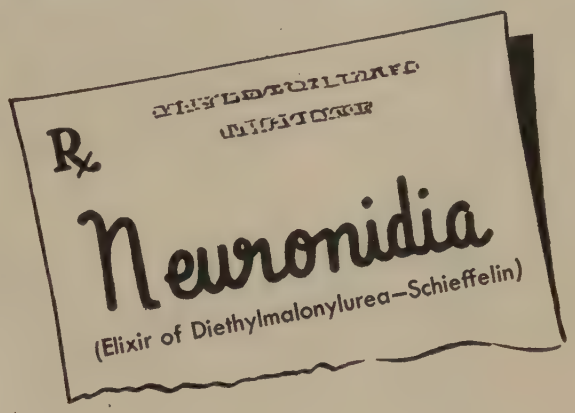

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Westinghouse X Ray Division has recently announced a new system to be offered first to the medical profession and industrial x ray users as well, designed to expedite rehabilitation and expansion of the nation's war-worn x ray facilities by a new system of three dimensional studies. Three dimensional studies eliminate the flat two dimensional drawing or blueprint from early planning and substitute instead tiny one-inch-to-one-foot scale models of x ray apparatus, furniture, partitions, floors and outer walls to duplicate any existing or proposed facilities. The x ray planning section has demonstrated the possibilities for endless arrangement and rearrangement in planning a modern x ray wing for a five hundred-bed hospital.

Adding to the problem of accelerated wartime obsolescence is the fact that hundreds of radiologists who entered the military services immediately upon completion of their training now are returning to civilian life and preparing to open their own laboratories. In addition, wartime use of the mass chest survey both in industry and the armed services to detect and treat tuberculosis in its early stages has proven so satisfactory that this aspect of public health will be vastly expanded with a consequent demand for still more x ray equipment.

It was this great demand for replacement and expansion plus the vital need for speed in meeting the requirements which prompted the division to borrow from industrial planning techniques. Model layouts can be made to fit a wide variety of requirements—from complete hospital roentgenology facilities to a small suite for the individual roentgenologist. Advantages are the most efficient utilization of floor space and complete understanding on the appearance of installed facilities.

In working out three dimensional studies, the company's planning experts have kept in mind the fact that new types of x ray equipment are being developed constantly, and better facilities are being devised which may have direct bearing on how an x ray department is planned. To meet this need and keep three dimensional studies up to date, new models are continually being made as readily as new items are developed for the profession.

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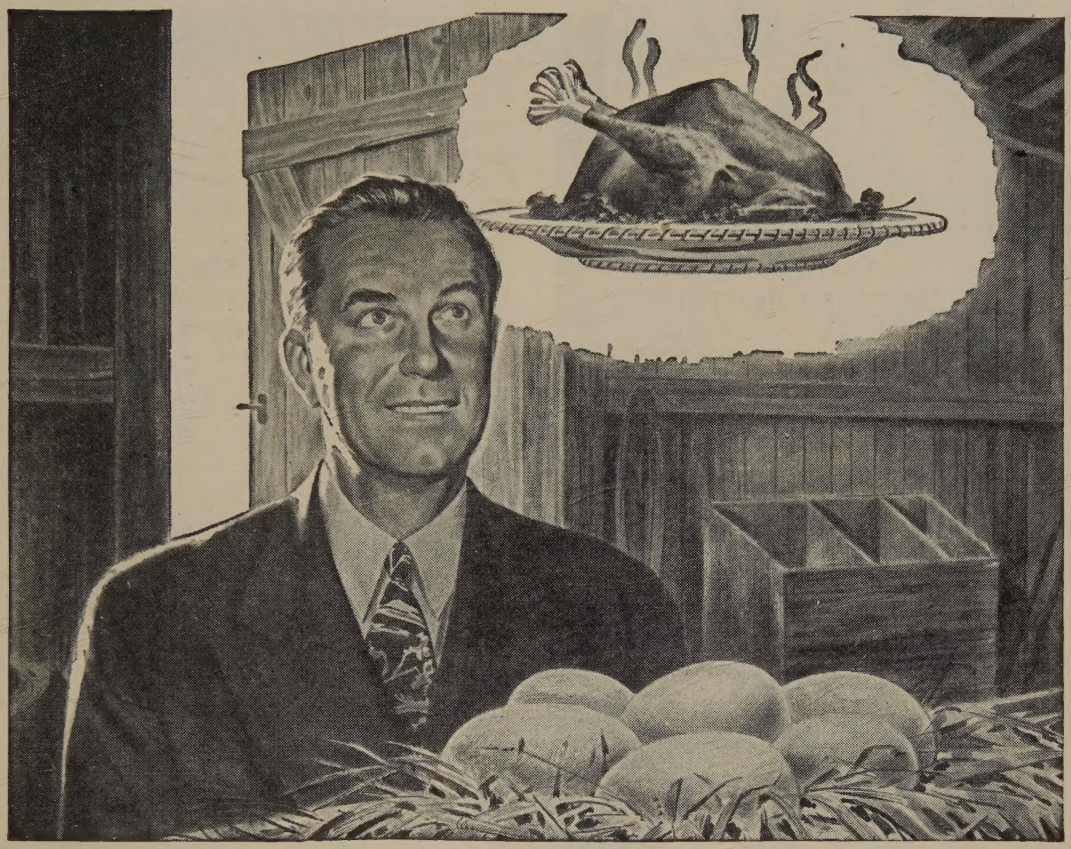

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Medical Literature for the Veteran Physician

A special compilation of informative literature on recent developments in endocrinology is being presented to each physician returning from service in the Armed Forces during the War. This literature is published by the Schering Corporation, of Bloomfield, N.J. The "Welcome Home" collection supplies information designed to help the military doctor bring himself up-to-date in civilian practice. It contains a copy of *Sex Endocrinology,* which covers the physiology, chemistry and rationale of hormones in modern therapeutics.

Greater Effectiveness of Penicillin

New methods for the development of "custom-built" penicillins were presented at the opening of the one hundred and tenth meeting of the American Chemical Society, held in Chicago, September 9th. Penicillins of greater effectiveness were reported by Dr. Kiyoshi Higuchi, Dr. W. H. Peterson, Dr. F. G. Jarvis and Dr. M. J. Johnston of the department of biochemistry, University of Wisconsin.

By adding certain chemicals the Wisconsin researchmen changed the proportions of different penicillins produced, they reported. The resulting drug thus could be designed to have a greater amount of a particular type of penicillin to combat a given kind of bacteria more effectively, their studies showed. Moreover, the studies found that the addition of these chemicals increased the total yield of penicillin, in one case by fifty percent.

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